

The Potential Buyer Asks, "Where Can I Get It? Who Makes It?"

AIR CONDITIONING

"Will you kindly send us a late list of manufacturers of air-conditioning units including units which can be used as attachments for hot air furnaces."—R. B. Ries, Treasurer, Midland Implement Co., Inc., Billings, Mont.

"We would appreciate your assistance in putting us in touch with, or giving us, the names of concerns who manufacture refrigeration machines, particularly the air-cooling machines adaptable for the Near East and Far West weather conditions. We are interested more especially in a machine that will maintain a certain degree of cool atmosphere. We propose to market this machine in Eastern countries through a Central Office in Cairo, Egypt. Any information you can give us along these lines, as well as about refrigerators in general will be greatly appreciated." E. N. Khouri, A. H. Khouri & Bro., New York, N. Y.

METALS

"Can you refer us to makers of metal suitable for seal parts in a refrigeration compressor? We have had some difficulty with the seals sticking after the machines have been stopped for a month or two. We think perhaps a different metal for one of the members of the seal might possibly solve this difficulty. At the present time we are using semi-steel for one member and hardened and ground steel for the other."—Albert E. Thornley, Supt., Narragansett Machine Co., Pawtucket, R. I.

IMITATION FOODS

"We desire to secure name and address of various manufacturers from whom we can secure imitation materials illustrating various kinds of food, meat, etc., that can be used for display purposes inside of electric refrigerators. If you can furnish the above information, we will appreciate receiving same, marked for the personal attention of the writer." Geo. H. Wilking, Pres. & Gen. Mgr., The F. Wilking Sons Co., Zanesville, Ohio.

BEER COOLERS WATER COOLERS

"Will you kindly let us know what you have in the line of a directory of manufacturers of electric refrigeration accessories, such as water coolers, beer coolers, etc."—R. W. Hale, Commercial Specialist, E. Pulver Cook, Inc., Providence, R. I.

MILK COOLERS

"I have a few customers that are in the market for milk coolers and I do not know who manufactures them. Wish you would give me their names and addresses so I can write them or give them my name and have them write to me." Chase Langmaid, Newton, Mass.

REFRIGERATED TRUCKS

"We have an inquiry from Paris from a firm who wishes to be placed in touch with American manufacturers of automobile trucks equipped with refrigerators. As we do not have a list of these manufacturers, I am wondering if you would be so kind as to supply us with a list, that is, if you have one available."—H. E. Way, Assistant Chief, Electrical Equipment Div., Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, D. C.

REFRIGERANTS

"Kindly advise where I can buy Iso Butane and also Methyl Chloride from reliable manufacturer or jobber or give them my address." S. C. Wacker, Great Falls, Mont.

"Will you be good enough to tell us where we may purchase Dichloroethylene in small quantities. As we understand it this is the same as the refrigerant commonly known as Carrene." Geo. W. Nitchy, Seibel Co., Kansas City, Mo.

"Will you kindly advise us of various sources of supply on F-12 gas?" J. A. McLaren, Refrigeration Div., The Adams-Campbell Co., Ltd., Los Angeles, Calif.

EXPANSION VALVES

"We would appreciate your advising us where we can secure information and literature on a type of expansion valve for use with ammonia, similar to what Servel use in their ammonia gas outfit." R. I. Gray, Walrus Mfg. Co., Decatur, Ill.

"One of our foreign clients is interested in receiving catalogs and other literature on the different types of thermostats, expansion valves, coils, syphon valves, etc. for refrigeration. If you will give us the names of manufacturers of the above lines, we shall feel obliged."—Geo. Wettach, Purchasing Dept., Smith Kirkpatrick & Co., Inc., New York, N. Y.

HARDWARE

"Would you please furnish us with the names of manufacturers of refrigerator hardware. We are particularly interested in semi-concealed hardware." M. Soren, Metallic Roofing Co., Toronto, Can.

CONDENSERS

"Enclosed find check for one year's subscription to the News. Please give us names of several manufacturers of condensers and receivers for domestic and commercial evaporators. We look forward to enjoying the News again."—T. A. Tallarico, Mgr., Refrigeration Sales & Service Co., Keokuk, Iowa.

SODA FOUNTAINS

"Kindly have some soda fountain manufacturers send us a catalogue. We are planning on buying a nice new fountain."—Frank Scheck, Scheck Supply Co., Albuquerque, N. M.

FINNED COILS

"Would you please advise us where we can get in touch with manufacturers of finned coil evaporators for use with brine?"—H. T. Scott, The American Paper Bottle Co., Toledo, Ohio.

REPLACEMENT PARTS

"As we are planning to open a general service department, can you advise us if any firm manufactures a complete line of replacement parts for all makes of machines."—N. E. Odom, Service Manager, Claude H. Wolfe, Inc., Orlando, Fla.

COMMERCIAL MACHINES

"Would like to get a list of commercial refrigerator manufacturers. Where can we get this?" P. K. Madan, Karl Philips, Inc., New York, N. Y.

COMPRESSORS

"Will you please inform us where we may purchase refrigeration compressors assembled or knocked down. We wish to assemble under our own name quite a few compressors and need this information as soon as possible."—Wm. J. Parker, Kittanning, Pa.

ELECTRIC ICE CREAM MIXERS

"We are interested in obtaining the names of firms who are manufacturing an electric ice cream mixer, which is attached to one of the trays in the cooling unit and stirs the mixture while it is freezing. Understand there are one or more devices of this type now offered for sale. If you are in possession of any addresses of this sort would very much appreciate it if you will advise us promptly." A. M. Taylor, Merchandising Dir., Leonard Refrigerator Co., Detroit, Mich.

OIL BURNING REFRIGERATORS

"Will you be good enough to forward to us, a list of manufacturers who make an absorption type of refrigerator, using as a fuel, coal, oil, or gasoline." Colonial Stove Co., Philadelphia, Pa.

Your Advertisement in the Refrigeration Directory and Market Data Book Will Give Him the Answer— And a Possible Sale to You

AS a few examples of how the Refrigeration Directory and Market Data Book functions as the connecting link between the buyer and seller of equipment, we reproduce some of the many requests which have come to us during the past year. In each case the potential buyer was referred to the information in the Directory.

There will be a new crop of potential buyers next year who will want this same sort of information. They will use the Refrigeration Directory and Market Data Book to get it, because the Directory is now—

The accepted industry register of all trade-marked refrigeration products.

It is the buyers' guide for engineering, production, and purchasing executives.

It is the handbook for all the suppliers who serve the industry.

It is the encyclopedia of information for present and prospective distributors and dealers,

The 1934 edition of the Directory will be issued next February. Your

advertising message in this new edition of the Directory will bring you in touch with potential buyers of equipment all through 1934. It will work for you every day during the next year for the low cost of only \$100 per page.

Many manufacturers who know the value of the Refrigeration Directory and Market Data Book as a business builder have already reserved space. They are now making plans to get a larger share of next year's business.

May we reserve your space now?

THE REFRIGERATION DIRECTORY AND MARKET DATA BOOK
550 Maccabees Bldg., Detroit, Mich.

REFRIGERATION NEWS

Registered U. S. Patent Office

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS.

VOL. 10, No. 13, SERIAL NO. 245
ISSUED EVERY WEEKCopyright, 1933, by
Business News Pub. Co.

DETROIT, MICHIGAN, NOVEMBER 29, 1933

Entered as second-class
matter Aug. 1, 1927THREE DOLLARS PER YEAR
TEN CENTS PER COPY

MAJESTIC NOW BEING OPERATED IN RECEIVERSHIP

**Plant Investment Big;
New Refrigerators
Due in January**

CHICAGO—LeRoi Williams and Thomas Marshall were named equity receivers for Grigsby-Grunow Co. Friday by Judge John P. Barnes of the U. S. District Court here. Mr. Williams is general manager of the company and will continue in active direction of the company's affairs. Mr. Marshall is a Chicago attorney.

The receivership is characterized as a helpful move by John F. Ditzell, general sales manager of the company, in a telegram sent to Majestic distributors and dealers Saturday. The telegram follows:

"Through a petition filed in equity in the United States District Court, Chicago, and to which we consented, LeRoi J. Williams and Thomas L. Marshall were appointed operating receivers for the Grigsby-Grunow Co.

"It should be made clear this is not bankruptcy, but a proceeding in equity. This was occasioned solely by the tremendous increase in our sales volume which in fact has placed us in a leading position in the industry.

"Continued operations of this company are assured on sound business policies. It will permit a prompt reorganization of our finances, also a definite program of permanent financing which will be consistent with the increased business Majestic is now enjoying.

"Majestic will be in a better position to serve you, and the action will make possible increased manufacturing operations and more effective advertising and selling plans, all of which will become immediately effective.

"In January Majestic will announce
(Concluded on Page 3, Column 1)

FRIGIDAIRE STARTS BROADCASTS DEC. 5

PORTLAND, Me.—City of Portland will take an important role in launching the first of Frigidaire's new coast-to-coast broadcasts from here Dec. 5, when the schooner *Seth Parker* departs on its around-the-world cruise, first 13 weeks of which will go out over an NBC network under Frigidaire auspices.

All Frigidaire dealers throughout Maine and New Hampshire are distributing tickets to school children and parents for admission to the boat as she lies at State Pier here.

Portland Chamber of Commerce has declared Dec. 5 "Frigidaire-Seth Parker Day" and has directed all business houses to fly the community banner in honor of the event. Stores on main streets are displaying blown-up pictures of Capt. Lord and Frigidaires.

Maine's Gov. Louis Brann last week sent an aide to Portland from the capitol in Augusta to notify Frigidaire
(Concluded on Page 3, Column 5)

NEW DISTRIBUTORS ADDED BY GRUNOW ORGANIZATION

CHICAGO—Additions to the distributor list of General Household Utilities Co., manufacturer of Grunow radios and electric refrigerators, were announced last week. Some of these distributor have handled one of the Grunow items and have just added the other, while other jobbers have been newly appointed for one product alone.

Following are new distributors and those which will handle both radios and refrigerators in the future:

Brown-Dorrance Electric Co., Pittsburgh, radios and refrigerators; Brown-Rogers-Dixon Co., Winston-Salem, Mass., radios; Doubleday-Hill Electric Co., Washington, D. C., radios; C. D. Franke & Sons Co., Charleston, S. C., radios.

Keil Motor Co., Wilmington, Del., both products; Monroe Hardware Co., Monroe, N. C., radios; Treadway Electric Co., Little Rock, Ark., and True & Blanchard Co., Inc., Newport, Vt., radios and refrigerators.

G-E's New Beer Cooler Gets a Workout



Commercial sales managers of G-E distributorships give the new G-E beer cooler a real trial after its introduction by Walter Landmesser (third from right, leaning on the bar). F. M. Corliss is a bartender.

KELVINATOR BEGINS YEARLY MEETINGS

DETROIT—Kelvinator Corp. has begun its annual series of distributor conferences in which are planned policies and sales activities for the coming year.

It is Kelvinator's policy to present its plans to small groups of distributors rather than in one large convention. District managers are being brought to the factory with distributors from their respective territories.

Here last week were the following: J. C. Burton, G. Ewald, and J. F. Crossin, factory representatives; D. R. Smith and W. C. Walke, Consolidated Gas & Electric Light Co., Baltimore; G. M. Boyman and A. H. Warne, Kelvinator-Bohman Co., Hagerstown, Md.; D. Schwab and Mr. Spector, Williamsport Auto Parts Co., Williamsport, Pa.

H. M. Weyenmeyer and Mr. Richards of Jere Woodring Co., Hazleton, Pa.; D. E. Rogers and Mr. Dorsey, Earle Rogers Co., Wheeling, W. Va.; R. B. Maxwell and Mr. Emmons, Emmons-Hawkins Hardware Co., Huntington, W. Va.; J. Thompson and
(Concluded on Page 7, Column 1)

G-E Shows New Beer Coolers

CLEVELAND—General Electric's line of beer-cooling equipment designed to fit the needs of any beer-dispensing establishment, was announced at the November conference of commercial managers of General Electric refrigerator distributors by Walter E. Landmesser, manager of the commercial division of the General Electric refrigeration department.

The equipment will be sold exclusively by General Electric distributors and dealers.

Through a cooperative arrangement with the Russ Soda Fountain Co. the Russ Instant Cooler with its patented pressure control feature will be used in the General Electric beer cooler. Russ will also furnish the bar counters, drainboards, air compressors, tapping apparatus, and fittings for the General Electric equipment.

The beer coils are contained right in the cooler, in direct contact with the refrigerant.

The high-pressure control system employed in the G-E cooler was described by L. N. Lucas, Russ sales manager, as follows:

"The beer control coils are incorpo-
(Concluded on Page 3, Column 1)

ENGINEERS TO MEET IN NEW YORK DEC. 6

NEW YORK CITY—New developments in the field of refrigeration and air conditioning will be brought forth for technical discussion here next week in the annual winter meeting of the American Society of Refrigerating Engineers. Meetings are to be held in the Hotel New Yorker, Wednesday, Thursday, and Friday, Dec. 6 to 8.

A. R. Stevenson, Jr., chairman of the program committee, cites as typical examples the talks on the physiological side of air conditioning, the operation of air conditioning in a rayon plant, a new insulation of expanded rubber which is manufactured only in England methods of passenger car cooling, and food load tests in domestic refrigerators.

An important phase of the program to those interested in air conditioning will be a joint session with the American Society of Mechanical Engineers on Thursday afternoon in the Engineering building on 39th St.

A pre-depression style social program is being arranged, with a large dinner-dance on Thursday night in the modernistic ballroom of the Hotel
(Concluded on Page 3, Column 2)

DIVIDEND PAID BY KELVINATOR; EARNS \$723,560

**12½ Cents Per Share
Voted; Funded Debt
Paid Off**

DETROIT—Directors of Kelvinator Corp., meeting here Wednesday, Nov. 22, declared a dividend of 12½ cents per share, payable Jan. 15 to stock of record Dec. 22. The directors also voted that the corporation would absorb the special federal 5 per cent tax on dividends.

Net earnings of Kelvinator Corp. and its subsidiaries, including the Leonard Refrigerator Co., were \$723,560.55, amounting to 64 cents per share for the fiscal year ending Sept. 30, 1933. This compares with \$102,701.15, or 9 cents per share for the previous year.

This figure is after all charges including federal taxes and including a charge against earnings of \$135,000 for possible loss of deposits in closed banks. Depreciation on buildings and equipment of \$497,506.19 was charged to operations as compared with \$490,408.05 for the previous year, the rates remaining unchanged. Also as in previous years all tool and die expenses have been absorbed against current operations.

The cash position of Kelvinator Corp. is substantially improved, the company's statement reveals. After paying or providing full payment of \$928,000 of funded debt in the form of Electric Refrigeration Building Corp. bonds, which was the only remaining
(Concluded on Page 3, Column 1)

MINNEAPOLIS DESIGNS HUMIDITY CONTROLS

MINNEAPOLIS—A new line of room-type relative humidity controllers, suitable for small commercial installations, has been introduced by the Minneapolis-Honeywell Regulator Co.

Built in various models providing for different electrical circuits, and available with or without relative humidity indicators, the new line of controls feature a sensitivity in the control of humidity not heretofore available, according to claims made by the company's engineers.

In the operation of the control, a simple lever mechanism, actuated by a hygroscopic element composed of multiple groups of human hair, transmits the motion of the expanding and contracting element to a mercury switch which, in turn, operates the humidifying or dehumidifying equipment.

Ample electrical capacity is available for the direct control of line-voltage solenoid water valves or small motors. With other circuit arrangement motorized valves may be con-
(Concluded on Page 9, Column 4)

BARS WILL HAVE PLACE AT N. Y. WINE EXPOSITION

NEW YORK CITY—Old wines and liquors from the United States and foreign countries, many types of distilled and brewed products, accessories for their consumption and use, and bars will be featured at the National Wine and Spirits Show to open here Dec. 18.

This first public wine and liquor exhibition will occupy, for four days, the tenth and part of the ninth floors of the Hotel Astor.

Afternoon and evening discussion groups and lectures are to be held in assembly rooms on the ninth floor, while the upper floor has been divided up into 125 booths to hold exhibits. Depending on size and location, booth prices range from \$200 to \$350.

The show is planned to run from 10 a. m. until 11 p. m. daily during its four-day session.

Discussions by prominent speakers are expected to center around general use of the different beverages in the home and on special occasions, how they contribute to preparation of culinary dishes, and various methods of preservation and dispensing.

- - - Just Around the Corner



Dealers in the next few weeks will strive for creations like this well-planned display of Ice-O-Matic refrigerators and accessories. Other good examples of this art may be found on page 12.

BY GEORGE F. TAUBENECK ---

Norge N. Y. Branch Three Years Old

A fortnight ago the New York office of Norge Corp. celebrated its third birthday. On Nov. 17, 1931, GLENN O'HARRA, vice president and eastern manager of Norge Corp., set up a New York office with FRANK HUGHES ("the man who looks like Roosevelt"), and HELEN AIKEN, who had been Mr. O'Harra's secretary for three years previous. Miss Aiken, a highly personable young lady, is often referred to by her cohorts as "the brains of the organization."

Today that New York office does more than 10 per cent of Norge's total national business. And the number of its workers has grown far beyond the original three. (See picture at bottom of page.)

There's LEONARD NEWBLOM, the efficient and smooth treasurer and office manager, for instance. And JOE GALWAY, credit manager, who has had a long background of experience in the radio field.

Too, there's the high class crew of apartment house salesmen, who work under the direction of Mr. Hughes. Between them, they manage to sell 65 per cent of all the Norges which go into the New York territory.

Some 140 dealers are enlisted on the rolls of the New York Norge operation. No direct selling is conducted on household refrigeration, all merchandising being done through dealers.

Social note: In addition to "IRON MAN JOHNNY" KNAPP and the writer, BEN ("Show 'em and sell 'em") OPPENHEIM, president of the B & O Radio Co. of Newark, and great protagonist of merchandising through displays, attended the birthday party.

'Gentleman Glenn' O'Harra

Last week we pinned a tag on one vice president of Norge, to wit: "IRON MAN JOHNNY" KNAPP. This week we have another for a second Norge vice president: "GENTLEMAN GLENN" O'HARRA.

Previously this label has been used on two heavyweight prize fighting champions of the world: "GENTLEMAN JIM" CORBETT and "GENTLEMAN GENE" TUNNEY.

Now Mr. O'Harra looks like anything but a prize fighter. He has the poise and dignity of a Supreme Court justice, the bearing and address of a foreign diplomat, the clothes and suavity of a Park Ave. socialite, and the grace and ease of "one to the manor born."

Nevertheless and notwithstanding, we're going to lift this appellation from the broad shoulders of Mr. Tunney and deposit it on the trim shoulders of Mr. O'Harra, for we think the term "gentleman" belongs there.

"Once a gentleman, always a gentleman," we've heard him say, and he really lives his life under that maxim. No matter what the situation, no matter what the provocation, Mr. O'Harra remains the complete gentleman.

Let no one think, however, that the exigencies of being a gentleman at all times keep Mr. O'Harra from being a good business man. He has had a long and successful career—as a vice president of United States Tire & Rubber Co., as a vice president of Norge, as an advertising agency operator, and in many other capacities.

And you have only to ask Messrs. Blood and Knapp of Norge to find out how satisfactory has been his conduct of Norge's business in the East. Or, ask any Norge man anywhere what he thinks of Mr. O'Harra if you want to find out how much he is liked and admired.

An Era Passes



Jake Siegenthaler, now in Grunow's production department, looked like this when the U. S. went dry.

Lorin Smith, Home Service Educator

Just as we got to the office after a trip to New York City last week, an old friend of ours dropped in to say hello. He is LORIN W. SMITH, JR., who until three months ago was director of the General Electric Kitchen Institute.

Lorin has a new job. He is a partner in the Home Makers Educational Service, which was started nine years ago by GERALD B. WADSWORTH of Freeport, N. Y. The company supplies instructional materials to some 17,000 home service educators in the United States.

In each of its nine-per-year bulletins, the service outlines a course of instruction for use and care of some particular brand of product commonly used in the average household.

Headquarters of the company will be maintained at Freeport, but Lorin will live at 20 W. Jackson Blvd. in Chicago, and will work out of that city. We say "work out," because his new job will require a lot of traveling.

When he called on us, Lorin was just getting back to the walking stage, having nursed a broken ankle for three weeks or more. He was carrying one of the biggest canes we've ever seen, a regular back-breaker he found years ago in New York's Grand Central station.

Old Home Week

Visitors have been dropping in on the News this week. Old friends. Few of them had any news, more's the pity, but it was pleasant seeing them, nonetheless.

There was "DOC" HAINSWORTH, chief of the Electrolux laboratories, for instance. What he had to say about the performance of the new air-cooled Electrolux in the field this year (he has been around checking up) jibed exactly with what Vice President F. E. SELLMAN and Advertising Manager BILL REYNOLDS had told us last week in New York.

Most new refrigerating machines cause their engineers to grow gray-headed during their first year in the field. We are glad to report to all his friends in the engineering fraternity that the Hainsworth scalplock is still intact and still dark.

Electrolux sales this year have been good, too. And profits.

From a kindred organization, Servel Sales, came District Representative E. W. McILVAINE, who covers the Wisconsin and Michigan territory for Servel electric refrigeration products.

Commercial business in his territory, he reports, is the best in history. And that reminds us that Mr. Sellman claims to have annexed a larger proportion of the industry's commercial

business this year.

Even so, Mr. Sellman figures that it will not be until 1935 that any manufacturer will make money out of the commercial refrigeration business.

BOB RICHARDS, Westinghouse publicity man from Mansfield, walked into the office with a new Recomar camera and a bagful of photoflash bulbs, and we had a regular field day trying various sorts of indoor shots.

Bob also stayed over for an evening of palaver and exchange of ideas and things with the editorial staff.

Still another visitor was AL BAILEY of Frigidaire, who was rejoicing over the circumstances which directed his travels toward Atlanta from Detroit in shivery weather like this week's.

Mr. Bailey had little to say about Frigidaire, so we took an hour off to trade reminiscences of newspaper days. At the time when Frigidaire's JIM IRWIN was city editor of the *Chicago Herald and Examiner*, Mr. Bailey was that paper's telegraph editor. Like most old newspaper men, he has a highly diverting store of anecdotes.

Kelvinator's Hero

There's a hero out at the Kelvinator factory. Not just an ordinary hero, but one of the extra-special kind. His name is W. S. BRITAIN, and he lives at 15472 Wisconsin Ave., Detroit.

For some time he has been employed by Kelvinator as a tool maker, and for three years he lived in Mt. Clemens, but only last week it was learned that he is the Capt. Britain whom Michigan's Governor Groesbeck proclaimed in 1922 as "Michigan's greatest war hero."

When residents of Mt. Clemens made this discovery, Capt. Britain was given a membership in the city's Harry Ollrich Post of the American Legion, and was honored at a ceremony.

A glance at the following official war record of Capt. Britain shows how he earned the right to be called a hero:

"For extraordinary heroism in ac-

Oh, Henry!



HENRY BURRITT, vice president in charge of sales of Kelvinator Corp., registers healthy enthusiasm before climbing aboard the Leonard Special train for the Michigan-Minnesota football game.

They Saw a 0-0 Tie



Sam Mitchell (center), new Leonard advertising manager, watches the Michigan-Minnesota football game with some of his distributor friends.

tion near Juvigny, France, Aug. 31, 1918, Lieut. W. S. Britain . . . went out beyond the main infantry line, pushed forward unsupported, and with his platoon captured two German officers, 94 men, and eight machine guns.

"From this point of action, Lieut. Britain with his platoon proceeded in a direction from which firing could be heard and by his quick decision captured two enemy field guns and six trench mortars, and immediately thereafter attacked and captured 30 prisoners and three additional machine guns."

Capt. Britain's citations and awards include: Distinguished Service Cross, Chevalier of the Legion d'Honneur, Croix de Guerre, Army Corps Citation, Gold Star Croix de Guerre, Army Citation with Palm and Congressional Medal of Honor recommended.

Capt. Britain entered the Army May 29, 1916, as a private in a machine gun company with the 125th Infantry. He saw service on the Mexican border, and was discharged on June 13, 1919, as a first lieutenant. Enlisted in Flint for the World War, he served overseas from Feb. 10, 1918, to May 17, 1919, participating in Trenches Dollar sector, Alsace, May 21, 1918, to July 17, 1918; Aisne-Marne offensive, July 28, 1918, to Aug. 19, 1918; Oise-Aisne, Aug. 29 to Sept. 12, 1918. He was with the Army of Occupation in Germany from Nov. 23, 1918, to May, 1919.

In his scrapbook, which was obtained through a person close to Capt. Britain who believed the community should know the valor of one of its citizens, is Capt. Britain's own penciled quotations of his daring exploit for which he won his principal renown. It is a prosaic little piece, entirely matter-of-fact and without any dramatization of events.

It was at Soissons, Lieut. Britain's own notes show, that he was not certain whether the date was Aug. 29 or Aug. 30. It was the start of a general advance. He and his platoon were assigned to move toward a railroad dump which had been held by the Germans. Seven of his men were wounded in the advance.

At the dump itself, in advance of his men, looking over the ground for a further chance to advance, he was struck by a shell fragment and rendered unconscious. After regaining consciousness he carefully looked about.

In a sunken road close at hand he saw a German helmet protruding. Small gun fire from some unknown position was being concentrated around him, so he ran toward the sunken road and jumped down. He landed in the rear of two German officers, 94 soldiers, and eight machine guns.

The count itself was made later. Lieut. Britain had not time to do it then. His one chance was in a bold front, and he grasped that chance instantly. He told the Germans that they were surrounded and that their best move was to surrender. The Ger-

man second lieutenant spoke English. He passed the news on to the first lieutenant and the latter promptly surrendered.

Lieut. Britain hailed his platoon runner, a Private Kirk, who was passing down the road, and with him sent word back for the platoon to come up. Then the prisoners were sent back and Lieut. Britain and his men moved forward quickly to complete an amazing adventure. Lieut. Britain's clothing bore more than 90 bullet holes after the raid.

Boyhood Dream Comes True

The boyhood dream of Seth Parker, sage of Jonesport, Me., whose homely philosophy is known to millions of movie fans, theater goers, and radio listeners, is coming true. Seth Parker, Capt. Phillips Lord in real life, shortly will depart on a cruise around the world in command of his own four-masted sailing schooner.

The ship soon will leave its dock in New York City, where it has been completely fitted out, for Portland, Me., where Gov. Louis Brann and his staff will bid Parker and his party an official farewell on Dec. 5. The day has been proclaimed a state holiday!

On that date, also, a series of weekly broadcasts covering the cruise up to the time he leaves American waters will be inaugurated over an NBC coast-to-coast network by Frigidaire Corp.

Now what do you think of that for showmanship?

Lord has named his picturesque windjammer the *S.S. Seth Parker*. The Frigidaire programs will be staged in the after cabin as the vessel lays in harbors down the coast. Lord will personally stage the programs and will play the part of narrator in them.

They will deal with stories of sea faring men and the adventures of the *Seth Parker* crew experiences between Portland and Miami. The stories actually will be dramatized on board the ship as she is docked near the original scenes.

It has been 21 years since Lord, son of a Maine preacher, sat alongside a road near Bar Harbor, summer residence of bigwigs of industry and finance, and made up his mind that some day when he had money he would spend it differently than did the people who came to his neighborhood for vacations.

"I'll buy me a sailing ship and hunt pirates and cannibals," he mused. "I'll sail to far off places and look for sunken treasures. I'll fish for deep sea creatures instead of the small fish in Meadow Brook."

And now the dream is becoming a reality. The windjammer *Seth Parker* has been fitted for service anywhere in the seven seas. Its hold is full of stores. It has an arsenal ranging from small revolvers to elephant guns. It has fishing tackle suitable for every type of water creature from flounder to the shark and the whale. A short wave radio broadcasting station now is being installed and the ship will be in constant touch with the United States no matter where it may be.

The cruise will last about two years. "There will be only three friends, a crew of 15, and myself," states Mr. Lord. "There always is the chance we may not come back, but windjammers used to go around the world, adventurers used to delve into the haunts of cannibals, and hunters used to go through the jungles, so I can't see any reason for holding back."

"We are going to attempt to send back short wave broadcasts telling of our adventures, but from the time we cast off at Portland on Dec. 5 until we clear Miami on Feb. 27, we shall hook on to land lines for a half hour every Tuesday and tell our experiences for the benefit of the millions who would like to carry out their boyhood and girlhood dreams just as I am doing but can't because of business or family responsibilities."

They Celebrate the Third Birthday of Norge—New York



This is the face belonging to Helen Aiken, secretary of Norge's "voice with a smile." New York and eastern operations.



Glenn O'Harra lines his New York Norge co-workers up together for a group picture.



Matilda Sbashings, who works for Frank Hughes.

APPOINT RECEIVERS TO MANAGE MAJESTIC

(Concluded from Page 1, Column 1) new and extensive radio plans as well as the most sensational line of refrigerators ever introduced.

"The action that has just been taken relieves us of the burdensome handicaps under which we have been laboring for the past three years. It clears the track for full speed ahead, and Majestic can now do all of the things that assure distributors and dealers of an unsurpassed product at the right price and with unequalled merchandising plans.

"We are enthusiastic and confident that this action will make possible the greatest era of prosperity in the history of Majestic. We are depending upon your continued support and cooperation."

JOHN F. DITZELL,
General sales manager.

B. J. Grigsby, president and chairman of the board, issued a statement last week in which he attributed the principal causes of the company's difficulty "to the impossibility of carrying the burden of its fixed investment in plant and equipment on the volume of business and profit now obtainable.

"The popularity of the low-priced midget sets reduced the value to the company of its large cabinet plant, and also made possible the entry into the already expanded radio industry of dozens of small radio manufacturing companies—with consequent price and profit demoralization. This competition resulted in heavy cash depletion and book losses."

It is understood that the company recently sought a large RFC loan.

First petition asking for a Majestic receivership last week was filed Thursday in behalf of the P. R. Mallory Co. of Indianapolis on a claim of \$14,785 for radio parts purchased by the company.

A second petition was filed Friday by the law firm of Russell, Murphy & Quigley on behalf of Joseph H. Tigerman, with a claim of \$26,350 for dividends and royalties, and two other creditors with small claims.

G-E SHOWS BEER COOLER AT COMMERCIAL MEETING

(Concluded from Page 1, Column 3) rated in the Instant Cooler. The secret of obtaining a perfect glass of beer lies in maintaining a high pressure in the keg—thereby preventing the escape of the original carbonation. If a high pressure is not maintained on the beer in the keg, the gas escapes.

"Ordinary practice calls for just enough pressure at the pump to force the beer out and through the coils. This pressure is usually in the neighborhood of 15 lbs. But, tapping at any less pressure than the natural pressure existing inside the keg causes an immediate loss of carbonic gas and consequent lessening of the 'pep' in the beer. This lost carbonic gas comes out of the faucet as foamy or wild beer. The Russ beer control system makes it possible to use air pressure in excess of the pressure in the keg.

"With this system a dispenser can fill the glass with one draw. No 'topping' is necessary."

A complete commercial sales course, to tie in with the new LaSalle-G-E sales training program, will be announced shortly, Mr. Landmesser told the commercial managers. A section of this course will be devoted to beer equipment.

KELVINATOR EARNINGS ARE \$723,560 FOR PAST YEAR

(Concluded from Page 1, Column 5) funded debt, cash and short term government securities on hand amounted to \$4,367,220.72 as compared with \$3,421,111.99 one year ago.

This amount compared with total current liabilities of \$1,291,000. Remaining balances in closed banks are not included in the above figures.

Commenting on this report, George W. Mason, chairman of the board and president, said: "In spite of reductions in sales prices and poor business conditions during the first six months of the fiscal year, sales showed increases both in unit volume of household refrigerators and in dollar volume thereof, and overall dollar sales also showed an increase. It is also pleasing to report that our distributors and dealers report the most satisfactory year in their history."

In a statement to the company's dealers and salesmen, Mr. Mason pointed out the fact that the electric refrigerator industry was one of the first to emerge from the depression.

GRUNOW DISTRIBUTOR MOVES

CHICAGO—Offices and display room of the Grunow Illinois Co., distributor of Grunow refrigerators and radios in Illinois, have been moved to new quarters at 203 West Wacker Drive here.

Latest Developments in Refrigeration Will Be Discussed at Winter A.S.R.E. Meeting

(Concluded from Page 1, Column 4) New Yorker. I. E. McFarland and other members of the New York section of the society are in charge of this event.

Peter Van Steeden's orchestra which has broadcasted over the Columbia chain has been engaged, and vaudeville numbers to be announced later. Price of the dinner-dance is to be \$5 a couple.

The usual welcome luncheon on Wednesday will be given in honor of the speakers, and special events for women guests are being scheduled, with a tea on Wednesday in the president's suite, with Mrs. A. W. Oakley and other officers' wives as hostesses.

The technical program follows in detail:

Wednesday, Dec. 6

9:00 a. m. Registration opens, mezzanine floor.

10:30 a. m. First session (North ballroom).

Topic: New Applications.
Chairman: A. W. Oakley, president of the society.

"Expanded Rubber Insulation," by H. D. Edwards, Union Carbide Co., New York City.

"Applications of Vacuum Systems," by F. D. Berkeley, Ross Heater & Mfg. Co., New York City.

"Coordination of Research and Engineering with Production and Sales," by J. S. Beamsederfer, research engineer, York Ice Machinery Corp., York, Pa.

12:30 p. m. Welcome luncheon, Grand ballroom. Speaker—Walter M. Raubenstrauch.

2:30 p. m. Second session (North ballroom).

Topic: Thermal Problems.
Chairman: H. Harrison, vice president of the society.

"The Condenser Water Problem," by Walter L. Fleisher, consulting engineer, New York City.

"Food Technology," by Prof. Philip K. Bates, Massachusetts Institute of Technology, Cambridge, Mass.

"Irradiation of Milk for Direct Expansion Coolers," by Geo. W. Putnam, director of research, Creamery Package Co., Chicago, Ill.

"Standards of Measurement in Refrigeration," by A. B. Stickney, Fred Ophuls & Associates, New York City. Evening open.

Thursday, Dec. 7

10:00 a. m. Third session (North ballroom).

Topic: Domestic-Commercial Practice.

Chairman: A. R. Stevenson, Jr., vice president.

"Food Load Tests in Domestic Refrigerators," by H. A. Whitesel, General Electric Co., Fort Wayne, Ind.

"Thermodynamics of SO₂-Oil Systems," by L. A. Philipp, director of research, Kelvinator Corp., Detroit.

"The Mercury Compressor; New Designs," by J. C. DeRemer, New York City.

2:30 p. m. Fourth session (joint session with A.S.M.E., fifth floor, 29 West 39th St.).

Topic: Air Conditioning.

Chairman: Clyde R. Place.

"Psychrometric Investigations and Data," by F. G. Keyes, Massachusetts Institute of Technology, Cambridge, Mass.

"Physiological Side of Air Conditioning," by R. R. Sayres.

"Noise Elimination and Air Motion," by C. Graves.

7:00 p. m. Banquet and dance, Grand ballroom.

Friday, Dec. 7

10:00 a. m. Fifth session.

Topic: Air Conditioning.

Chairman: G. B. Bright, past president of the society.

"Operation of Air Conditioning in Rayon Manufacture," by W. C. Giles, The Viscose Co., Marcus Hook, Pa.

"Unit Equipment for Restaurants, Offices, and Stores," W. C. Goodwin, Supply Engineering Dept., Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

"Methods of Passenger Car Cooling," by F. L. Sahlman, Transportation Engineering Dept., General Electric Co., Erie, Pa.

Frigidaire Will Open Radio Program Dec. 5

(Concluded from Page 1, Column 1)

he would be present with his staff. The NBC arrangements call for transmission of the program from the boat to Radio City, New York, from where it will go out over 57 stations from coast to coast.

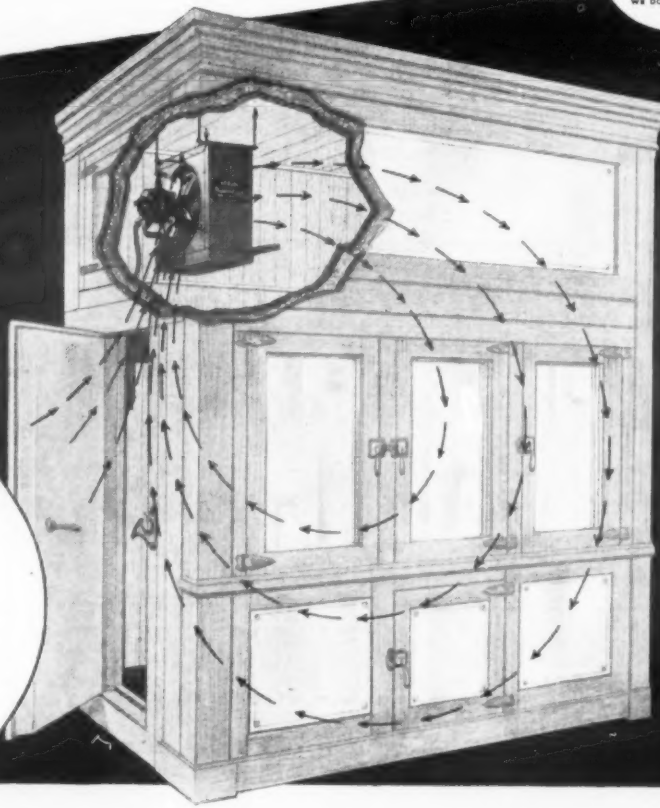
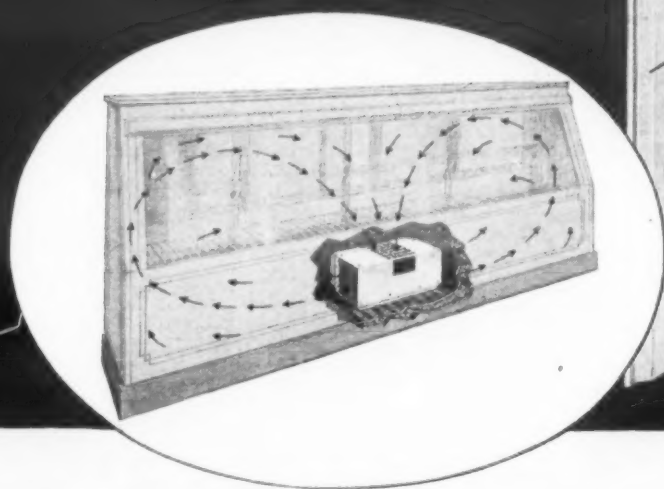
This broadcast will serve as kick-off signal for the pre-Christmas sales activity planned by Frigidaire and will break coincident with advertising in key newspapers and magazines.

Years Ahead FOR MARKET REFRIGERATION

HUMIDRAFT goes far beyond present-day standards. Makes a perfect servant of refrigeration. Provides the first accurate control of temperature, humidity and circulation. Don't judge Humidraft by ordinary refrigeration. It is totally different—in operation, in results. It not only provides cold air, but also conditions it and whisks it to every corner of the refrigerator—keeps it cold and moist and MOVING. This forced-draft system defies all weather conditions. Ends Summer dehydration and Winter "sweat." Banishes "blind spots" and stagnant air.

Powerful—Humidraft cools warm products quickly, keeps them safe and salable for days, even weeks. Compact—it eliminates obsolete bunkers and bulky coils, leaves as much as one-third more space for storage.

Because it is so different in design, so perfect in performance, Humidraft is bringing new sales volume to alert refrigeration dealers everywhere. You, too, can profit from this great new advancement. Write today for complete details about the attractive Servel commercial franchise for your territory. Servel Sales, Inc., Evansville, Indiana.



SERVEL Humidraft

TRIPLE-CONTROLLED REFRIGERATION

HOME SERVICE

Recipe Books Outline Proper Method Of Storing Food in a Refrigerator

By Jean M. Kerr

BECAUSE proper placement of food in an electric refrigerator contributes not only to preservation of the food but also to continued efficiency of the unit, refrigeration manufacturers have seen fit to include information on this subject in their recipe books which go to customers. Correlation of the points of view expressed in these books brings out certain facts common to all and a few individual differences.

All refrigerators are not just alike in construction: some have the froster or evaporator in the center of the upper shelf; some have it at one side; and some have it enclosed in a space of its own, similar to that in the side-icing ice box.

One distinctive difference is found in the Crosley Shelvador, which provides extra food storage space in the door. The same rules for food placement which apply to other refrigerators will apply also in this case, because the shelves in the door have approximately the same temperature range as those in the cabinet. In general, small articles are most easily placed in the Shelvador proper.

First principle to be considered in connection with proper food storage is the theory of refrigeration which makes some sections of the box colder than others.

"There is a difference of a few degrees in temperature of the various shelves of a refrigerator due to the fact that warm air is lighter than cold air," is the explanation given in a bulletin on refrigeration, entitled *Cold Facts*, issued by Georgia State College of Agriculture last year.

"When the air in the refrigerator is warmed with heat from the food, it expands, becomes lighter, and rises to the top of the cabinet where it goes back to the cooling unit to give up its heat. As this air is cooled it passes downward in the cabinet where it again takes up heat from the food. Therefore, the upper shelves will ordinarily maintain a slightly higher temperature than the lower shelves."

Since certain foods require colder temperatures than others, it is natural that some sort of standard arrangement can be set forth. Again quoting the bulletin:

"In general, foods which are most perishable and which require the lowest temperatures should be placed in the coldest part of the storage cabinet while those most easily preserved may be placed in less cold locations."

Foods with Odors

"Foods having a decided odor should be placed on the warmest shelf since that is the last shelf over which the air passes on its way to the cooling unit where some of the odors are deposited on the frost."

"Foods which absorb odors readily should be placed in the coldest location as that is the first shelf the air passes after leaving the cooling unit where it has deposited most of the odors."

Following is a list of the principal foods usually stored in a household refrigerator. Foods requiring the coldest temperature head the list (perishables and those which give rise to bacteria growth) while those needing the warmest temperatures (and to which cold is harmful) are at the end.

Milk, cream
Uncooked meats, fish, poultry
Cooked meats
Left overs
Refrigerator dough
Butter
Cheese
Eggs
Fruits
Vegetables
Salad oils

The two coldest places in the refrigerator are directly next to the froster or evaporator, and the bottom shelf immediately under it. The warmest areas are at the top of the refrigerator, away from the froster.

Placing Individual Foods

Individual foods may be placed in the refrigerator according to the following outline:

MILK, CREAM: Space is often provided next to the froster for storage of milk and cream. In models having no such provision, these foods are stored on the bottom shelf immediately beneath the froster. Milk and cream should always be kept in covered containers, as they absorb odors. Bottles should be washed and dried before placing in the refrigerator.

OTHER BEVERAGES (ginger ale, beer, fruit juices, batter): These are usually stored in tall bottles, and are therefore kept in the same space as milk and cream. If it is not necessary to keep them cold, or to chill them before serving, they may be stored in smaller bottles on one of the middle shelves. They should be kept in corked or covered containers.

WATER: Chilled water is kept in bottles of special design for the purpose, in water cooler attachments for household refrigerators, or in any other covered container. It should be stored in a cold area of the refrigerator.

Meats and Left-Overs

FRESH MEATS (also fish, poultry, broth, and soup stock): Meat should be placed on the bottom shelf of the refrigerator or in the defrosting tray (especially adapted for small cuts), both exceptionally cold areas. It should be unwrapped before storage, transferred to a small platter or dish, and covered lightly with cellophane or waxed paper to prevent drying out. Because washing meat extracts juice and hastens bacteria growth, it should be stored without washing. The exception to this is poultry, which should be cleaned thoroughly before storage. Fish should be placed in a covered container as it gives off a strong odor.

COOKED MEATS: These may be

kept in a slightly less cold position than fresh meat (one of the lower middle shelves), as they are not so liable to spoil. They may be placed in a covered container or wrapped in waxed paper. Smoked meats, such as ham or bacon, keep better when covered tightly and placed on an upper shelf.

LEFT-OVERS: Left-overs are divided into two classes: those containing milk or eggs (which are conducive to bacteria growth and spoilage) and the less perishable class which includes vegetables and fruits. Milk dishes, custard, cream sauces, etc., are kept close to the froster, or on the lower shelves. Other left-overs may be placed on middle shelves. Both classes should be kept in covered containers.

EGGS: The middle shelves, or the door in the Crosley, are used for storage of eggs. These are left uncovered, in an open dish or egg basket.

BUTTER, CHEESE, and LARD: These fairly stable dairy products should be kept on the middle shelves, in closed containers. Odors are very readily absorbed by butter, and given off by cheese.

REFRIGERATOR DOUGHS: Wrapped in waxed paper, and kept free from moisture, doughs are best preserved on the middle shelves.

Fruits, Vegetables

FRUITS: Top shelves are used to store melons, apples, and oranges, as they are apt to give off odors. Middle shelves can be used for most fruits, and they should never be stored on the bottom shelves or too near the evaporator. An exception to this is found in certain refrigerators which provide hydrators or crispers in which to store fruits. These boxes are usually constructed to slide into the bottom shelf. Canned fruits (placed in the refrigerator only when being chilled for immediate use) can be placed on any shelf.

It is not necessary to store all fruits in the refrigerator, and bananas should never be kept there. If it is desirable to slow up the ripening process in fruits, they should be refrigerated. Citrus fruits, apples, and other firm fruits do not need to be covered, as they have a natural skin of their own.

Soft fruits such as peaches, grapes, plums, etc., should be placed on a platter and lightly covered. Berries should be picked over before placing them in the refrigerator, but should not be washed. All other fruits should be washed first. Cut melons should be tightly wrapped to prevent the escape of their penetrating odor.

VEGETABLES: Vegetables should not be kept too cold, and so are stored in the middle areas in the refrigerator. With the exception of Brussels sprouts and asparagus, all vegetables should be washed before storage, and inedible portions discarded to save refrigeration and space. Do not dry the vegetables after washing, as the drops clinging to them will help to keep them moist. They should never be stored in wrapping paper.

In some models, as with fruits, vegetables are stored in the bottom of the cabinet in covered vegetable pans. Salad materials especially (lettuce, celery, parsley, etc.) should be kept in a vegetable pan to keep them crisp. If left uncovered they are apt to dry out. Wilted vegetables can be freshened by storage in a crisper. A lettuce bag is not recommended. In the absence of a crisper or hydrator for vegetables, any covered, ventilated container can be substituted.

SALAD OILS: Mayonnaise, French dressing, and other oils should have the warmest section of the box, or the top shelf farthest away from the froster. If kept too cold, oils are apt to cloud. They should be covered or kept in corked bottles.

Preparing Foods for Storage

Certain general rules and hints are worth noting in connection with preparation of foods for storage and their placement in the refrigerator. They can best be quoted from the recipe books containing them:

"Keeping a clean, odorless refrigerator is perhaps one of the most difficult problems of the homemaker. A clean refrigerator, which receives only clean covered foods will greatly simplify this problem. Practically all foods may be washed and prepared in advance for cooking, placed in the refrigerator, and stored several days before cooking. Advance preparation of foods not only helps to insure a clean refrigerator but saves much time in meal preparation."—Bulletin, *Cold Facts*, University of Georgia.

"The atmosphere in a Kelvinator is a dry cold. It is a decided advantage to have dry air for two reasons: in the first place, it is not the air itself but the moisture in the air which carries odors, so that with but little moisture in the cabinet, odors will not be carried readily. In the second place, a moist atmosphere is conducive to food spoilage. However, since the air is dry, foods should be covered to protect them from loss of moisture. All foods, except those with their own protective covers, such as cucumbers, oranges, eggs, etc., should be wrapped in waxed paper or placed in covered dishes."—Kelvinator Cooking with Cold.

"Wax, parchment papers, and cello-

In G-E's Kitchen



Carl Snyder, manager of G-E's dishwasher division, shows Katherine Fisher, Good Housekeeping Institute director, the latest thing in cup laundering. Miss Fisher addressed the recent G-E home service conference.

phane are all moisture-proof and will be found useful for wrapping sandwiches, and small amounts of left-over raw vegetables and cut fruits. Sliced lemon, for instance, will keep in perfect condition if covered in this way."—*Servel Simplified Hospitality*.

On circulation of air: "A word of caution should be given against overcrowding the shelves of any refrigerator. There must be sufficient open spaces on each shelf so that air may circulate freely. Where air circulation is stopped, the temperature in the food compartment may rise above the safety point, and ice cubes will be slow in freezing."—Westinghouse Refrigerator Book.

"Do not load your Leonard electric with canned goods, as it is not necessary to keep them in the refrigerator."—*Leonard Recipes*.

"Sometimes it is convenient to chill hot foods quickly in a Frigidaire. However, the best practice is to allow hot foods to cool to room temperature before placing them in the refrigerator. . . . It is advisable to remove foods from pails, packages, and wrappers and put them into china, porcelain, or glass containers."—*Your Frigidaire*.

"Remember to place to the back of the food cabinet those foods which are used least often; place in front foods used most often. This method of placing foods will reduce the length of time it will be necessary to leave the refrigerator door open."—Bulletin, *Cold Facts*.

Refrigerator Dishes

Another useful section of the bulletin describes the various utensils now on the market for holding food in an electric refrigerator.

"The wide variety of refrigerator containers now on the market offers an almost unlimited choice to the purchaser. Glass and heat-resisting glass dishes have the convenience of showing their contents to the user without their covers being removed. They are breakable from hard usage.

"Heat-resisting glass has additional value in that it is not breakable from high temperatures provided the hot foods are placed in the dishes at room temperature. Enamel dishes are easy to keep clean, do not stain except when strong acids are used, however, they chip easily and do not show, without removing the cover, the foods which they contain. Aluminum dishes do not break, but they stain when alkaline foods are used. Some of the stainless metals which are used to make refrigerator dishes do away with such stains.

"All shapes of refrigerator dishes are now available. Square dishes utilize refrigerator space most economically, but there is a possibility that they may be placed so close together that circulation of air is hindered where many are used. Oval and rectangular dishes are convenient for storing celery and other similar shaped food.

"Whatever shapes or materials are selected for the refrigerator dishes be sure that the covers fit securely."

Alaskans Attend First Cooking School

KETCHIKAN, Alaska—Featuring electric refrigeration and cookery, the first cooking school of its kind ever held in Alaska was sponsored here recently by the Ketchikan Chronicle, Citizens Light, Power & Water Co., Service Electric Co., and Smith Electric Co.

Grace Bogue Wilkes, Westinghouse home economist, conducted the school. A baking contest for non-professionals was an added attraction at the school.

Purest Sulphur Dioxide EXTRA DRY ESOTOO
VIRGINIA SMELTING Co.
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McCORD RADIATOR & MFG. CO.
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When Special Coils Are Needed Here's Quick Service

Now Over 45,000 Larkin Coils in Daily Use

EVERY normal coil requirement can be supplied from our line of 124 Standard Models and Sizes all of which are stocked for quick delivery at Atlanta, Brooklyn and Chicago.

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LARKIN

Refrigerating Corporation

Originator and Manufacturers

ATLANTA, GA., U.S.A.

U.S. PATENT NO. 1,274,328





Advertisers and subscribers give enthusiastic approval of the Refrigeration Directory

More than justifies the expense

"You will, of course, be interested to learn that the advertising in the DIRECTORY on our product, Freezer-Tray, has already pulled sufficiently well to justify the expense and the book has been out less than a week to our knowledge."—J. L. Hallett, Freezer-Tray Dept., The S. M. Howes Co., Boston, Mass.

Advertisement brings excellent results

"We would like to express our appreciation of the excellent results obtained through the advertising space taken in this year's issue of the REFRIGERATION DIRECTORY AND MARKET DATA BOOK. We believe that this medium successfully accomplishes the difficult task of placing our product before those we are actually interested in contacting. That this has been our experience is forcibly attested to by the response accorded our advertisement in the DIRECTORY."

"We are for the REFRIGERATION DIRECTORY AND MARKET DATA BOOK and believe it satisfactorily fulfills its duty of not only apprising the prospective purchasing market of all the new developments, but of supplying the manufacturer with an invaluable source of information. We believe that the DIRECTORY is destined for even greater success and extend to it, our heartiest felicitation."—H. A. Hawn, Pres., Consolidated Equipment Corp., Greenville, Mich.

Pleased with it

"We just received the copy of the DIRECTORY and are very pleased with it."—P. J. Holcombe, Frost Chest Sales Co., Dushore, Pa.

Tremendously impressed

"Will you kindly send a copy of the REFRIGERATION DIRECTORY AND MARKET DATA BOOK to Mr. N. G. Symonds, Vice Pres., Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa."

"I was tremendously impressed with the DIRECTORY AND MARKET DATA BOOK, and I know Mr. Symonds will be particularly interested in the sales figures and Mr. Taubeneck's article on the 'Trend of Electric Refrigeration Distribution During 1932.'"

"You are to be congratulated on getting out such an excellent DIRECTORY AND DATA BOOK."—R. C. Cosgrove, Manager, Refrigeration Div., Westinghouse Electric & Mfg. Co., Mansfield, Ohio.

Wants it every year

"Let me compliment your organization for getting up that splendid DIRECTORY. I hope that you will do this job each year."—B. H. Morash, Rutherford, N. J.

Uses directory to find suppliers

"I want to compliment you on this DIRECTORY, and I find it to be very valuable—in fact, during the short time which we have had it in our office, I have referred to the book, locating different concerns for six or eight different articles, and, in fact, have purchased several items directly through this DIRECTORY."—Ed Friedrich, San Antonio, Tex.

Fills the bill

"What we are interested in receiving is up-to-date news pertaining to the electric refrigeration industry, and also the DIRECTORY AND MARKET DATA BOOK. We believe the subscriptions to ELECTRIC REFRIGERATION NEWS as well as REFRIGERATED FOOD NEWS will give us the information that we require."—H. C. Gilbert, Buyer, Manufacturing Div., The Brunswick-Balke-Collender Co., Chicago, Ill.

His copy too popular

"Please send me an additional copy of the new SUPPLEMENT to the REFRIGERATION DIRECTORY AND MARKET DATA BOOK entitled 'Trends of Electric Refrigeration Distribution During 1932.'"

"The copy which you sent me was so popular here that I could not hold it. You are to be congratulated on both its arrangement and contents."—E. T. Williams, Consulting Engr., Servel, Inc., New York City.

Directory valuable

"The 1932 REFRIGERATION DIRECTORY AND MARKET DATA BOOK will form a valued addition to our files."—Frank Messenger, District Mgr., Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, Portland, Ore.

Wonderful

"I have received your REFRIGERATION DIRECTORY and I think it is wonderful."—M. A. Lopez, Corona, L. I., N. Y.

Congratulations

"We have just received our copy of the REFRIGERATION DIRECTORY and want to congratulate you on the completeness of this publication."—N. W. Sieber, Advertising Mgr., Continental Fibre Co., Newark, Del.

The 1934 REFRIGERATION DIRECTORY and MARKET DATA BOOK—a real force in helping manufacturers of equipment and service make contact with potential buyers

THIS year the refrigeration industry will sell the largest number of refrigerators in its history and there is every indication at present that the 1934 refrigeration business will set new records.

Consider the part that the REFRIGERATION DIRECTORY AND MARKET DATA BOOK can play in helping you get a larger share of next year's business.

First issued in 1932, the DIRECTORY filled a big demand for facts and figures on all phases of the refrigeration business. Potential buyers of equipment and services have turned to the DIRECTORY for their needed information and in its two years of service the DIRECTORY AND MARKET DATA BOOK has been a potent factor in bringing these potential buyers in contact with sources of supplies. Its faculty for being on the job when equipment buying orders are planned has made it a most profitable source of business for its advertisers.

With this background of service, the REFRIGERATION DIRECTORY AND MARKET DATA BOOK has industry acceptance today which will make advertising in the new 1934 edition of greater value than ever before.

The 1934 edition of the REFRIGERATION DIRECTORY AND MARKET DATA BOOK is a logical, practical advertising medium for every manufacturer of refrigeration equipment and for every manufacturer, large or small, who sells supplies or service to this great industry.

Advertising forms of the 1934 edition close Feb. 1

Already many manufacturers have made reservations for their selling message. *If you have not done so, may we suggest that you give it your consideration now.*

The cost is low (only \$100 per page). Your message will be current throughout the year and always available for ready reference when men are buying.

Business News Publishing Co.

550 Maccabees Bldg., Detroit, Mich.

ELECTRIC REFRIGERATION NEWS

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The Newspaper
of the Industry



Written to Be
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Published Every Week by

BUSINESS NEWS PUBLISHING CO.

Also publishers of REFRIGERATED FOOD NEWS (monthly) and REFRIGERATION DIRECTORY and MARKET DATA BOOK (annual) 550 Maccabees Building, Woodward Ave. and Putnam St. Detroit, Michigan. Telephones: Columbia 4242-4243-4244-4245

Subscription Rates—U. S. and Possessions and all countries in the Pan-American Postal Union: \$3.00 per year; 2 years for \$5.00. Canada: \$6.00 per year (due to special tariff). All Other Countries: \$5.00 per year (U. S. Money)

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EDITORIAL AIMS

To encourage the development of the art.
To promote ethical practices in the business.
To foster friendly relations throughout the industry.
To provide a clearing house for new methods and ideas.
To broadcast the technical, commercial, and personal news of the field.

VOL. 10, No. 13, SERIAL NO. 245, NOV. 29, 1933

The Plight before Christmas

CHRISTMAS window displays are given prominence in this issue of ELECTRIC REFRIGERATION NEWS. One appears on the front page, and the entire back page is devoted to pictorializations of successful refrigeration displays reflecting the Christmas motif. Each one of these pictures was selected for ELECTRIC REFRIGERATION NEWS by sales promotion managers of various manufacturers as representing the most effective window displays developed for the 1932 Christmas season, based on records of their power to stop prospects and pull them into the store.

Undoubtedly the Yuletide is one of the best times of the year to utilize good window displays. The heaviest pedestrian traffic of the year is passing dealer storefronts; and what's more important, this traffic is composed of people who are in a buying mood. Competition for these customers is, of course, fierce. It takes a good display to pull prospects out of the mobs and into the showroom. Nevertheless, the electric refrigerator lends itself particularly well to display design, and with a little thought and care, the retailer of refrigeration products should be able to get a fair share of this trade. In recognition of this situation the Electric Refrigeration Bureau is offering cash prizes for Christmas window displays adjudged the most effective.

Anything of this nature which will stimulate dealers to take advantage of the excellent opportunity offered them by the Christmas season should be welcomed by the industry at large, because infusing most retailers with the "Xmas spirit" has always been a task that has perplexed sales managers and distributors. The sales curve always shows a little bounce during the holiday season, but the rise is not nearly so high as executives think it should be. Sales are too spotty—dealers here and there catch the idea and do a good job, but a far greater number still refuse to believe that refrigerators can be sold in winter time.

Sales managers really find themselves in a plight about this time of year. Not only must they try to sell a recalcitrant public, but they must work overtime selling their distributing organizations on the idea that the public can be interested in their products during cold weather.

If a keen sales executive makes many visits to furniture and department stores in December, he's likely to become cross with his secretary, mean to his wife, and nasty to his children. He sees a heavy flow of traffic through these stores, the biggest influx of the year. He notes that these customers in most cases are looking for

something to buy—they have not come down specifically for a suit of pajamas or a new piano lamp to replace the one that Junior and the dog smashed, but they are walking through aisle after aisle with inquiring eyes and open minds. Yet refrigeration sales don't respond as he thinks they should.

All this, to a man whose heart is in refrigeration, is like saying "Sic 'em" to a good collie. And at once he gets stirred up because he can't seem to get displays on every floor, special sales crews, extra window displays, and the like.

Your keen sales manager is also likely to become wroth with his dealers, who may shove refrigerators into the background and put forth their best efforts on other appliances.

As Major Howard Blood, president of Norge, puts it: "The only reason refrigeration is a seasonal business is ignorance." That sums it up perfectly. The plight in which sales executives find themselves when cold winds begin to blow can be solved only through education—educating the public, and educating the dealer.

Dependable refrigeration, of course, is needed as much in winter as in the summer. Winter is the time of ailments, the time when human resistance is at its lowest ebb, and when it becomes imperative that the foods we eat be protected from the multiplication of ravishing organisms.

Moreover, old-school cooks and housewives are wont to trust foods to porch refrigerators and window boxes during the colder months, not aware of the fact that only 19 days out of the entire year will provide temperatures low enough for good refrigeration. In the summer they may buy ice; in the winter they simply skip refrigeration altogether.

The winter sales story is a good one, and easy to tell. And salesmen will note that in the wintertime their prospects are much more likely to be home than in the summer. Too, they are more likely to be interested in something for the home then, for it is in the winter that families most appreciate their homes, use them most, and do most of their thinking about improvements.

By special arrangements with finance companies, some organizations have been able to offer a "spring dating plan," which permits buyers to obtain a refrigerator before Christmas without beginning monthly payments until spring—thus eliminating the "we'll wait until spring" comeback.

Lacking a plan of this sort, the well-trained salesman can demonstrate to prospects that they are prejudicing the health of their families—and running the risk of incurring dreaded doctors' bills—by postponing the purchase of a good refrigerator until springtime.

All-year-round refrigeration sales would solve a great many of the major non-competitive problems of the industry. Education, it is generally agreed, should make such a condition possible. This year would be a good year to start.

WHAT OTHERS SAY

THE TIMES

THE question of the moment seems to be what next, now that the Blue Eagle has had its fling? If the question is "Did it accomplish all that was ascribed to it?", the answer is certainly no. At one stage of the campaign it looked as if the old mistake of finding good times just around the corner was again being made in Washington. But nobody could deny the job was worth doing, or that it accomplished a lot, for as Walter Lippmann has it, the job of the administration is to reform business as well as to improve it. He has also demonstrated, or at least claimed, that the plan was foreordained to failure to stimulate the heavy industries.

Refrigeration seems to have shown signs of reacting in the way thus indicated. Those parts of it related to retailing and the ultimate consumer have been stimulated greatly during the past six months. Those parts more related to engineering and the sale of capital goods have not fared much better than they did the year before. While for some lines of heavy machinery the public works program promises much, refrigerating machinery is in all probability less likely to be affected than other kinds, and refrigerating engineering per se is not likely to be regarded as a general division of public works engineering.

The coming months in refrigeration marketwise, thus promise to be better than the immediate past but not greatly better. The character of the market, that is, the kind of equipment in demand, will probably thus be about what it has been—more related to the ultimate consumer than to the kind of purchasing which is due to capital investment. An important exception is the brewery field.—Refrigerating Engineering, November, 1933.

LETTERS

Questions Validity Of Copeland Claim

50 Church St., New York City
Nov. 25, 1933.

Publisher:

The ELECTRIC REFRIGERATION NEWS, of Nov. 22, carries, on its front page the captions, "First Copeland Goes to Smithsonian Institute"—"the first successful refrigerator is shipped to Smithsonian Institute with appropriate ceremony." Then with the description of the ceremonies you state, "the first successful automatic refrigerator" to the Smithsonian Institute.

Your language is of such a nature that some of your readers may believe that you intend to say that the Copeland company made the first automatic refrigerator, at least Mr. Schaefer's article so states very clearly.

May I ask that you will make this matter so clear that the Smithsonian Institute will not be led to think that some one has imparted to them incorrect data re refrigerators.

Your own paper has in the past set forth very clearly that the first "Automatic Refrigerator" was installed in New York City in 1902.

It is not often that you are found giving out wrong data, so let's have a correction by the "Journal," that has done so much for the "Refrigeration Industry."

FREMONT WILSON,
Consulting Engineer.

Utility Support And the Bureau

Electric Refrigeration Bureau
420 Lexington Ave., New York City
Nov. 16, 1933.

Editor:

Your suggestion that the financial support of the Electric Refrigeration Bureau should come from the electric public utilities, if it is to be carried on next year, merits a little closer study with due regard to the facts.

As you know, the utility companies are the main source of leadership and financial support for the local refrigeration bureaus and have contributed large sums to that end. Last year these bureaus spent over \$600,000 on cooperative activities and the utilities accounted for 60 per cent of this sum, as shown by questionnaires returned by the bureaus. This does not include the promotional advertising done by the utility companies directly nor does it include any charge for employees' time assigned to local bureau work but is just the money which they put into the pot for cooperative advertising, exhibits, contests, and the like.

Nor does it include the headquarters' expense which the Edison Electric Institute contributes covering office space, bookkeeping, stenographic and managerial services.

I do not believe, in fairness to the utility companies, that there can be any criticism of the interest taken in or the financial support given to the local cooperative activities by the utility companies. They certainly have done their share.

In arriving at a fair division of expense as between utility company and manufacturer, it should be borne in mind that the utility company is interested only in refrigerator sales in its own locality; those which mean more kilowatt hours on their own lines, whereas the manufacturer's interest is national. Therefore it seems to me that the utility company should support the local bureau and the money for general promotional expense (outside of headquarters' expense which is donated by Edison Electric Institute) should come from the manufacturers. This has been the method of division during the three years of the bureau and yours is the first suggestion which I have received that the utilities should carry it all.

Now let's look at the manufacturer's side of it. Where does he come in? Assuming that he believes in promotional and educational advertising for electric refrigerators to augment and strengthen his product advertising, it seems to me that his dollar can best be spent in some central bureau which in turn will stimulate and assist in getting 400 local bureaus to spend money in their local advertising.

As you said, "After all, manufacturers are interested in spending their money to see that people buy their own machines"; and that is true but they are interested first, I believe, in getting people in the frame of mind of needing automatic refrigeration. After that, their product advertising and their sales forces are designed to take care of it.

Differing from the utility company, which is interested in local sales, the manufacturer is interested in national sales and, generally speaking, does not care where these sales are made so long as they are made. Therefore it is logical for him to contribute to the support of the national bureau and not to the local bureaus. It may

be a mere coincidence but he will find that the greater sales are made where a greater public acceptance has been developed by cooperative dealer activities.

In closing let me state that the refrigerator manufacturers have very generously supported this activity for the past three years and we hope that they feel they have benefitted to the same degree as we are sure the utility companies have. From our observations the results have been mutually satisfactory.

G. N. BROWN,
Refrigeration manager.

Credit Mr. Elfenbein With the Figures—Not Mr. Arkwright

House Furnishing Review
1170 Broadway, New York, N. Y.
Nov. 4, 1933

Mr. Preston S. Arkwright,
President,
Georgia Power Co.,
Atlanta, Ga.

Dear Mr. Arkwright:

It is interesting what a few misplaced quotation marks can do. What I really said in my talk before the General Electric Clinic was the following:

"Let me use one example from the booklet issued by Preston Arkwright, chairman of the Electric Cookery Council. It says that average home without an electric range consumes 500 kilowatt hours annually. At six cents a kilowatt hour, that's about \$30.00 a year. That jibes with Edison Electric Institute which reports the average monthly electric bill today to be \$2.80. The average home with a range," says Mr. Arkwright, "consumes 2,250 k.w.h. annually." At six cents a k.w.h. that would be \$135—\$100 more in electric power from one consumer by the sale of one appliance. Of course promotional rates would make this less—about one-half. This potential business is what has inspired utilities like Hartford Electric Light and Georgia Power and utilities in midwest and on Pacific Coast to rent electric ranges at 30 cents a month. Boston Electric Illuminating Co., is installing standard electric ranges free of charge regardless of where purchased. Up in Ontario and British Columbia the utilities install free, rent free, both ranges and heaters. This is a highly controversial problem and I simply mention in passing."

Mr. Ralph Cameron of General Electric asked me for the notes on my talk which I turned over to him with the specific request that he show me proofs before sending them out, but in a letter to me on Oct. 27 I was told that they did not have time to do so. Shortly thereafter I received from Maxon, Inc., General Electric's advertising agency, a publicity release which included a boiled down copy of my talk and other talks made at the conference.

This release was published in ELECTRIC REFRIGERATION NEWS practically verbatim, and, as you point out, is quite incorrect, with some of my own statements attributed to you through misplacement of quotation marks.

I am sending a copy of this letter to Mr. George Taubeneck of ELECTRIC REFRIGERATION NEWS with the request that the error be corrected and I shall also send a copy to Mr. Bollmeyer of Maxon, Inc., so that he may request a correction from whatever publications used his publicity release.

Thank you very much for your letter of Nov. 2. I had not read the article in the ELECTRIC REFRIGERATION NEWS containing my remarks; your letter called the error to my attention for the first time.

JULIEN ELFENBEIN,
Managing editor.

Georgia Power Co.
Atlanta

Nov. 10, 1933.

Mr. Julien Elfenbein,
c/o House Furnishing Review,
1170 Broadway, New York.

Dear Mr. Elfenbein:

I appreciate very much your letter of Nov. 4. I can readily understand how the error occurred. On reading your full statement, as stated in your letter, there is no objection that I can make to it. The main criticism I had was in reference to charging six cents a k.w.h. for current to operate electric ranges with, and apparently attributing this statement to me.

I thank you for the trouble you have gone to to correct the story, and I greatly appreciate your attitude.

P. S. ARKWRIGHT,
President.

Likes 'Gas' News

Philadelphia Gas Works Co.
Philadelphia

Oct. 30, 1933.

Editor:

It is a pleasure to note the apparent broadening of your editorial policy of including news of the gas industry, as exemplified in the Sept. 29 issue of the News.

R. A. MALONY,
Chairman, A.G.A. Refrigeration Committee.

To Be Opened AFTER Christmas



Visitors at the Stewart-Warner plant in Chicago see this "teaser" display on the company's 1934 refrigeration line.

KELVINATOR BEGINS YEARLY MEETINGS

(Concluded from Page 1, Column 2)

Mr. Beede, Stambaugh-Thompson Co., Youngstown, Ohio.

Mr. and Mrs. L. A. Pixley and Mr. Krumm, Pixley Electric Supply Co., Columbus, Ohio; Mr. and Mrs. M. J. O'Connell, Columbus, Delaware & Marion Electric Co., Marion, Ohio; Stephen Brown and Edward Smith, Albany Garage Co., Albany, N. Y.; F. S. McNeal, G. W. Blay, T. L. Anderson, Kelvinator Corp. of Canada, London, Ont.

John Van Benschoten and Harvey Wood, Poughkeepsie, N. Y.; H. H. Landis, Landis Electric Co., Lancaster, Pa.; E. G. Carpenter, Kelvinator Careva Co., York, Pa.; D. T. Lansing, D. T. Lansing Co., Scranton, Pa.; D. B. Williams and Messrs. Huffman and Garrett, Williams Distributing Co., Clarksburg, W. Va.

Wm. R. Collard, Peoples Globe Co., Canton, Ohio; E. Hagenlocher and E. Selb, Briggs-Hagenlocher Co., Erie, Pa.; Barnie Pielsher, Graybar Electric Co., Syracuse, N. Y.; Dave O'Brien, Graybar Electric Co., New York City; Mr. Weller, Wellers, Inc., Asbury Park, N. J.; E. A. Wildermuth and Ray Hoefer, Brooklyn.

A. A. Brandt, Barber & Ross, Inc., Washington, D. C.; R. H. Giedd, Virginia Public Service, Alexandria, Va.; C. R. Rogers and Mr. Gaylord, C. R. Rogers Co., Pittsburgh; G. F. Bertke and Messrs. Seiss and Julian, Graybar Electric Co., Cleveland; W. E. Henning and Messrs. Lauferweiller and Dohany, Buffalo branch, Buffalo; H. D. Barber, New York branch, Long Island City, N. Y.

T. Craig, Elmira Heat, Light & Power, Elmira, N. Y.; A. E. Ward, Utility Management Holding Co., New York City; C. R. Rudy, Binghamton Railway Co., Binghamton, N. Y.; F. B. Pemberton and Mr. Stevens, Public Service Electric & Gas Co., Newark; C. Haller and Mr. MacCrellich, Graybar Electric Co., Cincinnati.

J. K. Graves, Edward Carney, and Ralph Foster, Philco Sales & Service, Louisville, Ky.; G. F. Dent, Geo. F. Dent Radio Co., Bay City, Mich.; M. S. Garlock, Garlock Kelvinator Co., Lansing, Mich.; H. L. North, North Lumber Co., Kalamazoo, Mich.; H. D. Halleck and Mr. Rowlands, Kelvinator Rowlands, Lima, Ohio; P. W. Fechtman, Mrs. Pearson, and Mr. Hinshaw, Pearson Piano Co., Indianapolis.

T. Brasse, Adam Snider & Co., Terre Haute, Ind.; T. F. Kennedy and W. P. Guinan, Cities Service Co., New York City; C. V. Sorenson, W. W. Smiley, Public Service Corp. of Indiana, Indianapolis; Ed Schmidt and J. E. Fanning, Toledo Edison Co., Toledo; Ed Horry, Edison Sault Electric Co., Sault Ste. Marie, Mich.; and Howard Davis, Consumers Power Co., Jackson, Mich.

Farm Survey Shows Refrigerators Lead

CHICAGO—Refrigerators stand first among the electrical appliances which farmers intend to buy as shown in a survey of 519 farm families in 37 states conducted by *Electricity on the Farm*.

The survey showed that 20 per cent planned to buy electric refrigerators and 11 per cent planned to buy electric ranges. Other appliances which farmers intend to buy in the order of their popularity, are: washing machines, water systems, vacuum cleaners, ironers, radios, milkers, feed grinders, motors, milk coolers.

3 Companies Take Space at Show

CHICAGO—Three refrigeration manufacturers—Apex, Gibson, and Leonard—are among the companies which have already signed for space in the seventh annual National House-furnishing exhibit to be held in the Stevens hotel here Jan. 8 to 13, according to show officers.

Exhibit committee consists of nine prominent buyers from department stores in different parts of the country, as follows: C. S. Maginnis, The Fair Store, Chicago; J. W. Boston, Famous-Barr Co., St. Louis; J. J. Henry, J. L. Hudson Co., Detroit; J. E. Bason, Outlet Co., Providence, R. I.; Charles McCurry, Gimbel Bros., Philadelphia; W. A. Ricker, Boston Store, Milwaukee; Charles Hansen, Hahne & Co., Newark; A. J. Becker, B. Altman Co., New York City; Fred Copperthwaite, H. & S. Pogue Co., Cincinnati.

Among other exhibiting manufacturers are Automatic Washer Co., Newton, Iowa; Barton Corp., West Bend, Wis.; Chicago Electric Mfg. Co., Chicago; Conover Co., Chicago; Dominion Electric Mfg. Co., Minneapolis; Easy Washing Machine Corp., Syracuse, N. Y.; Getz Power Washer Co., Morton, Ill.; Hamilton-Beach Mfg. Co., Racine, Wis.; Hoover Co., Chicago; Manning Bowman Co., Chicago; National Enameling & Stamping Co., Milwaukee; National Stamping & Electric Works, Chicago; National Wash Board Co., Chicago.

BAKER INTRODUCES NEW DIRECT MAIL FOLDERS

OMAHA—Baker Ice Machine Co., Inc., of this city has recently brought out two new pieces of literature, one dealing with meat market refrigeration and the other with brewery refrigeration.

The folder on meat markets points out some of the features of Baker equipment and is illustrated with installations in which Baker condensing units have figured.

The piece of brewery refrigeration hinges around the theme "The Key to Beer Quality Is Temperature Control," and information on the requirements of breweries for refrigeration equipment is included in the copy.

The brewery folder also contains a cut-out view and analysis of a Baker compressor.

H. F. MacGrath Leaves Leonard

DETROIT—H. F. MacGrath has resigned his position of midwestern district sales manager for Leonard Refrigerator Co.

Mr. MacGrath was at one time a distributor for Kelvinator Corp. in Syracuse, N. Y., and has also acted as central states sales representative for the Seeger Refrigerator Co.

BROKEN LEG NO HINDRANCE TO FRIGIDAIRE SALESMAN

DES MOINES—A broken leg was no handicap to Donald Luther, Frigidaire salesman for the Iowa Power & Light Co. at Adel, Iowa.

Breaking his leg in an automobile accident just as he was starting out on a contest with other Frigidaire salesmen, Luther from his hospital bed wrote and wired to his prospects, reaching one who was on a fishing trip in Minnesota. Mr. Luther beat his quota and collected his prize money on leaving the hospital.

11 Manufacturers in Refrigeration Division of Nema Sell 47,726 Household Units in October

Reported by Refrigeration Division of National Electrical Manufacturers Association. Member companies: Crosley, Frigidaire, General Electric, Gibson, Grigsby-Grinnow, Kelvinator, Norge, Servel, Trupar, Universal Cooler, and Westinghouse.

HOUSEHOLD			U. S. A. INVENTORIES		
Lacquer (Ext.) Cabinets with Systems			Factory, Branch, and Warehouse	Dealers and Distributors	
Quantity	Dollars	Quantity	Quantity	Quantity	Dollars
1. Under 4.00 cubic feet.....	963	50,800	477	33,029	1,374
2. 4 to 4.99 cubic feet.....	17,778	1,174,341	28,465	1,973,029	20,919
3. 5 to 5.99 cubic feet.....	3,123	247,584	9,285	694,074	8,183
4. 6 to 6.99 cubic feet.....	4,958	424,373	8,026	710,388	11,824
5. 7 to 7.99 cubic feet.....	4,340	462,304	13,865	1,516,367	8,042
6. 8 to 8.99 cubic feet.....	340	45,601	1,338	169,110	1,824
7. 10 to 12.99 cubic feet.....	62	12,254	640	119,647	322
8. 13 to 16.99 cubic feet.....	35	7,695	186	37,384	57
9. 17 to 24.00 cubic feet.....	9	2,362	63	14,123	27
10. Total Lacquer.....	31,608	2,427,314	62,335	5,267,151	52,572
Porcelain (Ext.) Cabinets with Systems					
11. Under 4.00 cubic feet.....	12	728	33	1,958	99
12. 4 to 4.99 cubic feet.....	1,547	124,685	8,629	799,501	2,981
13. 5 to 5.99 cubic feet.....	904	89,056	866	79,626	2,153
14. 6 to 6.99 cubic feet.....	3,135	324,260	5,600	570,756	5,225
15. 7 to 7.99 cubic feet.....	5,299	653,874	10,534	1,350,793	7,860
16. 8 to 8.99 cubic feet.....	1,742	241,858	1,864	263,853	2,733
17. 10 to 12.99 cubic feet.....	726	128,739	793	140,864	920
18. 13 to 16.99 cubic feet.....	278	58,196	743	150,240	420
19. 17 to 24.00 cubic feet.....	41	12,625	290	84,459	166
20. Total Porcelain.....	13,684	1,634,019	29,352	3,442,050	22,557
21. Total Lines 10 and 20.....	45,292	4,061,333	91,687	8,709,201	75,129
22. Separate Systems.....	1,130	41,894	8,144	374,012	925
23. Separate Household Low Sides.....	1,304	18,891	3,133	54,840	615
24. Total Lines 21, 22, and 23.....	47,726	47,726	102,964	483,864	76,669
25. High Sides Under 1/2 hp.....	864	39,765	1,659	82,684	380
26. Cabinets—No Systems.....	167	10,220	25,392	1,393,209	121
27.....					
28. Total Household.....		4,172,103		10,553,946	7,112,125
COMMERCIAL					
31. Water Coolers with High Sides.....	718	67,389	6,603	667,646	2,897
32. Water Cooler with No High Sides.....	66	3,271	2,983	122,769	151
33. Ice Cream Cabinets with High Sides.....	44	4,800	2,214	300,804	86
34. Ice Cream Cabinets with No High Sides.....	92	10,186	3,408	423,164	194
35. Milk Coolers with No High Sides.....			7	1,296	18
36. Room Coolers with High Sides.....	45		2	1,045	1
37. Room Coolers with No High Sides.....	6,722		1,500	152,378	295
38. Extra High Sides, 1/2 hp. and Up.....	3,454	386,542	9,124	1,060,317	3,406
39. Total Lines 31, 32, 33, 34, and 42.....	4,396		20,505		6,979
40. Extra Commercial Low Sides.....	4,408	145,032	17,855	627,352	4,475
41. Miscellaneous Cases and Cabinets.....		129,697		336,356	
42. Beverage Coolers ***.....	192	10,749	2,562	153,145	589
43. Total Commercial.....		764,288		3,846,172	1,087,859
44. Totals—Household and Commercial.....		\$4,936,291		\$14,520,118	**\$6,199,984

*The total of the figures by sizes does not agree with the total figures shown, namely \$14,520,118, because of the failure to supply the detailed information by all companies.

The number of companies reporting inventories at factory, branch, and warehouse was 10. The percentage of total sales of these 10 companies was 98.4%.

**The number of companies reporting inventories of dealers and distributors was 9. The percentage of total sales of these 9 companies was 95.1%.

***Beverage Coolers with and without High Sides.

PHARMACY HAS FRIGIDAIRE IN PRESCRIPTION WINDOW

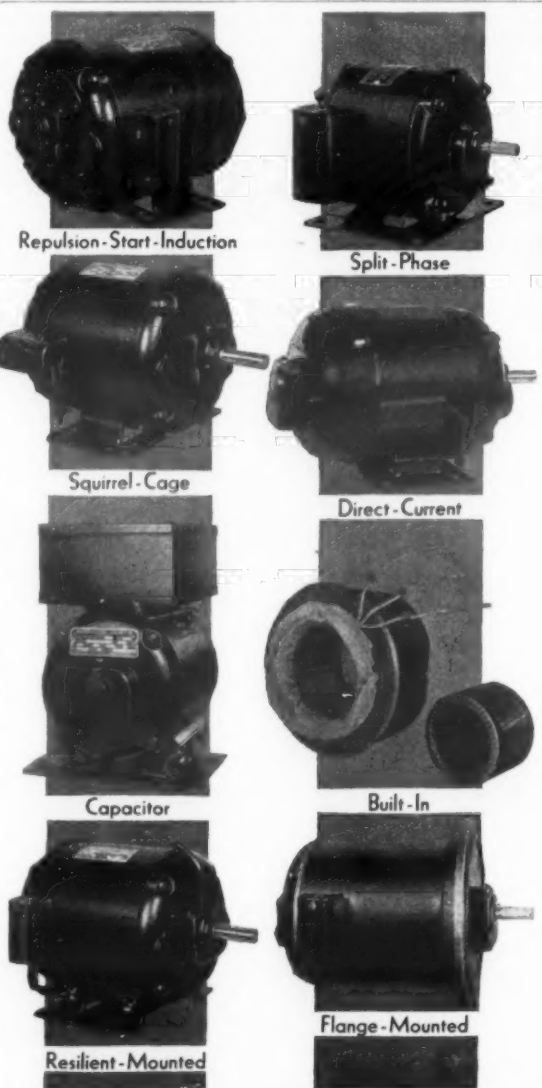
CLEVELAND—Entire Huron Road front window of the Weinberger drug store at East Ninth St. and Huron Road here is used as one side of its prescription department. In full view of passersby, registered pharmacists are at work in this window, filling prescriptions. Displayed as a part of the laboratory equipment is a Super-43 Frigidaire with biological inserts.

E. V. Walsh Promoted By Timken

DETROIT—E. V. Walsh, sales manager of the Timken Silent Automatic Co. since 1928, has been appointed vice president of that company in charge of sales and advertising, according to Willard F. Rockwell, president. Mr. Walsh joined the Timken organization in 1926 as manager of its Detroit branch.

G-E DISTRIBUTOR EMPLOYS PUBLIC MARKET DISPLAYS

NEW ORLEANS—As a means of reaching large numbers of prospective appliance buyers, General Appliances, Inc., G-E distributor here, has taken display space in two of the city's large public market buildings, according to Fred Staehle, vice president of the company. Salesmen are stationed at the exhibits during all marketing hours.



You can Standardize on Wagner Motors

The Wagner line includes all types of small motors generally applied on refrigerators, making it possible for you to standardize on Wagner motors. Whether alternating or direct current; single or polyphase; open, drip-proof or totally enclosed; rigid or resilient-mounted, flange-mounted or built-in—there's a Wagner motor now in existence, ready to be applied on the job.

There are some 25,000 different type-horsepower-speed combinations of Wagner motors (in ratings of 1-30 to 400 hp.). Certainly, your motor requirements can be met by the Wagner line!

For complete details, ask for Bulletin 167 describing Wagner small motors.

Wagner Electric Corporation

6400 Plymouth Avenue, Saint Louis, U.S.A.



COMPANION MERCHANDISE

Gas Utility's Kitchen Planning Division Offers Consultation Service

By R. A. Malony, Philadelphia Gas Works Co.
Chairman Refrigeration Committee, American Gas Association

WHILE there is little left to say generally regarding the place of the gas industry in kitchen modernization, there are some interesting things to be said about steps taken by Philadelphia Gas Works Co. to become a recognized local factor in this national trend. Probably the most interesting development from our standpoint has been the establishment of a "Kitchen Planning Headquarters."

Early attempts made by our company to interest building operators and apartment house owners in modernizing obsolete types of kitchens revealed the necessity of close cooperation with the suppliers of kitchen equipment other than gas appliances. In order to present complete plans and convincing arguments for kitchen modernization, it was necessary to obtain costs and other data on cabinets, fixtures, and miscellaneous furnishings.

Very often it required as much effort to justify the type of cabinet or floor covering recommended as it did to sell the gas appliances.

Furthermore, there was always a tendency on the part of the apartment house or building operator to shop around, and kitchen equipment manufacturers whose products had not been included in the original plans naturally refused to exert themselves to influence the adoption of recommended gas appliances.

Only by full cooperation with all kitchen equipment suppliers could we assure ourselves that our products would receive good treatment at the hands of companies which have so many valuable contacts with the building trade.

Obviously, the best way to present this comprehensive picture of the modernized kitchen was to create an exhibit of various types of kitchens, using all of these companion products in a practical, everyday arrangement.

Accordingly, we offered for this purpose, a space in the local Architects' building which had been devoted to the exhibit of gas appliances by our company. Kitchen equipment manufacturers and dealers agreed to defray the rental costs of additional space to make the exhibition large enough to be completely representative.

The initial exhibit as opened to the public in September contains four complete kitchens, an office for the consultant in charge, and an open flagstone porch used as reception room.

Altogether, 30 manufacturers have supplied equipment, varying from Venetian blinds to kitchen cabinets. No advertisements or signs are displayed in the exhibit with the exception of an unobtrusive inlaid marking on the flagstone porch. The participants and their products are advertised only through information given prospectively by the consultant in charge.

For the trade as well as the public, we have an exhibit that includes practically all materials and equipment

used in modern kitchens. Here architects and housewives may obtain approximate costs, see materials on location, and receive a plan that includes their personal ideas on kitchen layout and equipment.

In sponsoring the exhibit, several important problems were presented. First was the question of whether we would furnish plans for modernizing kitchens to anyone who applied, and if so, would the volume of requests overtax our facilities.

In order to restrict this service to prospects who are definitely interested in modernizing their kitchens, the following method was adopted:

Anyone applying to our kitchen consultant for a kitchen plan is given a cross-section sheet on which are printed suggestions for obtaining the measurements of her kitchen. The prospect is requested to obtain these dimensions and roughly sketch the design of her kitchen. This rough sketch is then returned to our kitchen consultant and a finished plan is submitted.

The prospect is, of course, urged to express any preference she may have either for the color scheme, gas equipment, or other units included in the plan. At the time this dimensional sheet is furnished to the prospect, the name and address is taken, and if she fails to return the sketch within a certain period, she is contacted by telephone.

Should she require assistance, a home service representative is sent to her home. It is felt that any woman who goes to the trouble of furnishing the information required on this sheet would do so only if she were definitely interested in modernizing her kitchen.

2 SELF-STARTING CLOCKS DEVELOPED BY WARREN

ASHLAND, Mass.—Two new self-starting electric clocks to retail at \$9.95 each have just been announced by the Warren Telechron Co. of this city.

The Signalet is an easel model alarm clock with 4½-in. dial. It is available with frame and supports in either gold or chrome finish. The base is of black plastic material.

The Minitman has a drum-type dial similar to that in the Telechron "Minitmaster." The case is brown mahogany with satinwood ornamental front and top panels.

Standard Stove Co. to Sell 'Range-Light'

TOLEDO—A "range-light" which will fasten to the splash-board of any electric range has just been introduced by the Standard Electric Stove Co. of this city.

The shade of the "range-light" is translucent Plaskon, the standard is porcelain enameled. It can be connected into the convenience outlet on the range or to any wall outlet in the kitchen. The new device will retail at \$7.50.

Electrochef Sales Make New Record

DETROIT—September shipments of Electrochef ranges were greater than the total for any month since 1931, according to R. B. Marshall, vice president and general manager of Electromaster, Inc.

Shipments for the first 45 days of the final quarter of 1933 are 200 per cent ahead of total shipments for the last quarter of 1932, according to Mr. Marshall.

CAMFIELD HEADS WURLITZER RADIO SALES

NORTH TONAWANDA, N. Y.—R. W. Camfield, president of Sentinel Radio Corp. in Chicago, has resigned his position to become sales manager of the radio division of Rudolph-Wurlitzer Mfg. Co. here.

The All-Gas Kitchen Becomes a Reality



Philadelphia Gas Works Co. and International Nickel Co. have cooperated to develop the kitchen shown above, which is equipped with gas-operated appliances and kitchen equipment finished in Monel metal. Appliances include refrigerator, range, and water heater.

WESTINGHOUSE REPORTS GAIN IN RANGE SALES

EAST PITTSBURGH, Pa.—Factory orders for Westinghouse electric ranges for the first half of September were 40 per cent greater than total orders for ranges in any September in the past five years, according to Reese Mills, manager of the range division of Westinghouse Electric & Mfg. Co.

"From all evidence we receive I believe that the majority of sales we have made are very definitely moving through to the consumer and are not being bought on inventory," declares Mr. Mills.

"Dealers have been very reluctant to build up a stock during the past two or three years, so that the increase in public purchasing power has caught them with a very low inventory."

MOTOR WHEEL DESIGNS OIL BURNING BAKE OVEN

LANSING, Mich.—An oil burning bake oven designed for restaurants, hotels, and bakeries has been announced by the heater division of Motor Wheel Corp.

The new oven is a four-tray unit with a capacity of 48 1½-lb. loaves of bread or 24 10-in. pies or their equivalent. Removable doors and trays also permit deep-pan roasting.

Temperatures are manually controlled, and each oven temperature has its corresponding setting on the oil control dial to enable the operator to choose the exact degree of heat desired for each bake.

Oven exterior is of steel, reinforced with angle iron. It is lined with rust-resisting steel. The burner stove is chrome steel of electric welded construction.

KELVINATOR ISSUES 3 OIL BURNER SELLING PIECES

DETROIT—Three new pieces of literature have been prepared by Kelvinator Corp. to aid in promoting sales and increasing distribution of its oil burner.

First is a complete presentation of the mechanics and features of the unit, assembled in booklet form and titled, "To help Mr. and Mrs. . . . Select the Best Automatic Oil Burner for Their Home."

Second is a piece for use by distributors in securing dealers, and is headed "Let's Go Along Together." Another is a portfolio for new and prospective retailers, and contains a detailed description of the general market, features of the Kelvinator burner, and the merchandising plan.

AUTOMATIC WASHER NAMES TWO DISTRIBUTORS

NEWTON, Iowa—Taylor Electric Co. of Milwaukee and Madison, Wis., and H. D. MacRae, Inc., of Rochester, N. Y., have been named distributors for Automatic washers and ironers, according to a recent announcement by Roscoe N. Bradt, sales manager of the Automatic Washer Co.

Krich Co. Entertains Utility Group at Meeting

NEWARK—Krich Distributing Co., distributor for Gibson electric refrigerators and ABC oil burners, entertained the sales and executive forces of the Jersey Central Power & Light Co. at a dinner Nov. 20 at which an actual demonstration was made of the ABC "Mistolator," which employs the atomizing process developed by the Automatic Burner Corp.

The Krich organization was represented by B. Gordon Krich and Paul R. Krich, vice president and sales manager of the company. Officials of the Automatic Burner Corp. present included Jack Hirsch, E. A. Grovers, W. A. Doermann, and Mark Rolfe, Jr., who is with the Krich Co. as the factory representative.

The Jersey Central Power & Light Co. was represented by B. A. Seiple, merchandise manager; R. A. Mathews, merchandising manager of the northern division; and H. W. Peck, general manager of the northern division; and all branch managers and their sales forces.

NEW CROSLEY SET BUILT FOR GROUND STATION USE

CINCINNATI—A "Ground Station" radio, built especially for use in airports, pilot's homes, or aviation officials' offices, has just been introduced by Crosley Radio Corp.

The receiver in the new set is a 7-tube superheterodyne and has the dual range feature which permits the reception of both beacon and meteorological reports as well as broadcasts over the standard bands.

The receiver will operate on any alternating current of voltages from 95 to 267 and frequencies of 25 to 100. It is housed in a cabinet of grained walnut and burl maple, which measures 18½ in. high, 16½ in. wide, and 10½ in. deep.

WLW to Test New Radio Transmitter

CINCINNATI—First test broadcasts on the new 500,000-watt transmitter plant which is now being installed for station WLW, the Crosley Radio Corp.'s station, are to be made early in December if not sooner, according to Joseph A. Chambers, WLW technical supervisor.

As the result of this extension of the radius of WLW's signal, the new Crosley equipment will provide for an area coverage of about 25 times that of the present transmitter and antenna equipment.

PRICE BOOSTS DECREASE LAUNDRY SALES VOLUME

WASHINGTON, D. C.—Because of recent increases in the price of their services, laundries have suffered a marked drop in business volume, and sales of washing machines have doubled, said R. A. Martino, representing the NRA Consumers' Advisory Board, at a recent hearing on a code submitted by the Laundry Owners National Association.

During the first five months of 1933, laundry sales were only 52 per cent of those in the same period of 1929, testified H. B. Coneby, member of the laundry industry's code committee.

Mr. Martino opined that an even sharper decline in laundry sales volume will be occasioned by the code's proposed provision to establish minimum retail and wholesale prices, as it calls for increased charges on practically all laundry services.

MELLON BUYS NEW MODEL

WASHINGTON, D. C.—Two Westinghouse refrigerators have been installed in the apartment of Andrew W. Mellon, former secretary of the treasury, by the Edgar Morris Sales Co., Westinghouse distributor here.

Fulco Adjustable
REFRIGERATOR
COVERS

Fit any size refrigerator. Big saving over old styles. Easy to adjust—more convenient. Made of strong, durable green drill—durable lining and non-lump filler. Write for prices today.

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Division of
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

Market Surveyor



F. R. KOHNSTAMM
Westinghouse sales promotion
manager is speaker.

Westinghouse Men Hold Meeting on Air Conditioning

EAST PITTSBURGH, Pa.—Air conditioning was the subject of an all-day meeting held here recently by the Westinghouse Electric & Mfg. Co. for 35 officials of the West Penn Electric Co. and its subsidiaries, utility system in western Pennsylvania and West Virginia.

J. S. Tritle, Westinghouse vice president, welcomed the guests and stressed the importance of air conditioning as a large future consumer of electricity.

R. A. Neal, central station sales manager, stated that from the standpoint of increasing the electric load of central stations, applications of air conditioning can be classified in three broad fields.

They are the commercial, the industrial, and the domestic, listed in the order of their present importance, he said. This increased load is desirable to utilities because of its diversity factor, power factor, load factor, and off-peak load.

Good profits to stores which are among the first to take advantage of air conditioning were predicted by A. C. Streamer, sales manager of diversified products. Concerning the permanency of the air-conditioning market, he said:

"If each air-conditioner application is accurately estimated, correctly engineered, properly installed, and adequately serviced, air conditioning will stay sold with the public. Sale of equipment which is inadequate as to capacity or function, or is improperly applied, will react against manufacturers in future sales efforts."

Two most important characteristics of the immediate market are its lack of educated demand for air conditioning and its restricted buying power, said F. R. Kohnstamm, Westinghouse sales promotion manager. His statement was based on a survey of the air-conditioning situation just completed.

According to the survey, air-conditioning dealers, utility executives, editors, and competing manufacturers agree that the principal market next year will be among the commercial concerns, including executive and general offices of commercial and industrial establishments.

The residential market does not seem to be ready yet for vigorous cultivation, Mr. Kohnstamm asserted.

Trained men are the greatest necessity of the new industry, Mr. Kohnstamm observed, and quoted from the report:

"... Progress in the air-conditioning business will be to a considerable extent influenced by the ability to develop adequately trained men to perform the various functions of selling, engineering, installing, and servicing."

Believing it is a factory responsibility to originate training for dealers, sales representatives, and utility men in an industry so new as air conditioning, Westinghouse has already taken steps to develop a training and educational plan, he concluded.

Other Westinghouse officials discussed advertising and marketing problems and described engineering features of Westinghouse equipment. A demonstration of the company's air conditioners completed the program.

UNIVERSITY BUYS CABINET

TUCSON, Ariz.—University of Arizona here recently purchased a 20-cu. ft. Westinghouse refrigerator for installation in Pima Hall, girls' dormitory operated on a cooperative plan.

SERVICE NOTES

By K. M. Newcum

Repairing a Float Valve On the Job

OFTEN the service man is stuck in the field with a leaky float valve, and having no replacement valve finds that he must make the repair on the job with his regular tools.

Most leaky floats are due either to the seat being worn, or the needle being worn or scored, allowing an excessive amount of refrigerant to enter the evaporator and overflow down the suction line, resulting in a frost-back during the running cycle of the machine.

If the float is found to be leaking, it should be removed from the evaporator and inspected after pumping all the refrigerant back into the condenser. If the needle and seat is worn, the leak is at this point and must be corrected.

Some floats have removable seats, while others do not. In either case it is best to leave the seat intact while repairing, as it may be damaged in removing and replacing. It will be found that the needle seats directly in the small hole, and in reality the hole has merely been worn larger or out of round.

Clear the Seat

Remove all the other parts away from the seat, and file directly across this surface or face with a mill file, cutting the metal evenly and sufficiently to remove a thin layer. It will be found that the uneven surface has been removed, but there will be a burr inside the hole as a result of filing.

This burr may be removed by applying a film of extra fine valve grinding compound on the end of a round tapered, wooden tooth-pick (obtainable in any good restaurant), inserting the end of the tooth-pick into the hole in the valve seat, and revolving, as you would in grinding a valve in an automobile.

This will clean out the hole and leave a smooth polished surface, adaptable to the needle. When the grinding is completed, all traces of the compound should be removed.

Then inspect the needle, as it will probably be worn or slightly pitted. Obtain a block of plumbers lead, at least 1 in. thick. Drive the needle, point first, down into the lead, by tapping with the hammer.

Grinding the Needle

It is well to use a block of wood between the blunt end of the needle and the hammer for protection. The needle should be driven into the lead about 1/2 in. The needle should then be removed, carefully so as not to disrupt the hole in the lead.

Apply a film of extra fine valve grinding compound to the point of the needle, and re-insert the needle in the lead. Revolve the needle, applying a slight pressure with the fingers. The hole in the lead, being the exact shape of the needle, will hold the needle in place, and at the same time, act as a grinding surface for the needle.

The needle should be removed and inspected at regular intervals, as it should not be ground any more than is necessary. When the grinding is completed and the point to the needle is smooth, it may be polished by using Bon Ami and oil, just as the grinding compound was used.

The float may now be assembled for testing. Connect a line from the head of the compressor, or a refrigerant container, to the liquid line connection on the float assembly. Hold the assembly in the hands, upside down, so the weight of the float ball and arm is holding the needle against the seat.

Testing the Float

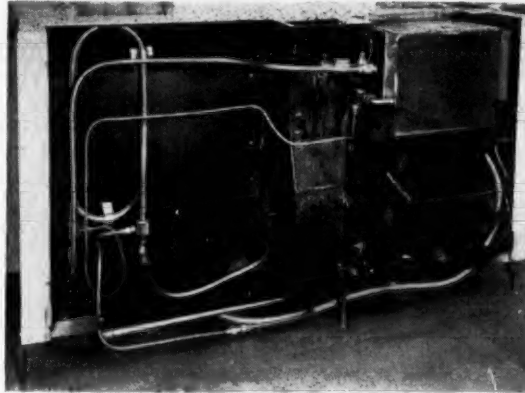
Raise the ball with one hand off the seat, and allow it to drop into place. This will tend to seat the repaired surfaces. Move the needle away from the seat a second time, and apply oil between the needle and seat to act as a seal. Let the ball again rest in its natural position, i.e. with the weight of the ball holding the needle into the seat.

Open the valve at the head of the compressor (or refrigerant container) allowing pressure to the needle and seat. If there are any large leaks they may be heard. If the leaks are slight, oil may be run in around the needle, at the seat, and any leak will show as a bubble in the oil. If the leak is very slight, raise the ball the second time allowing it to drop into place, and it may be found that the leak will stop. The repair has been completed, and the float may be re-installed.

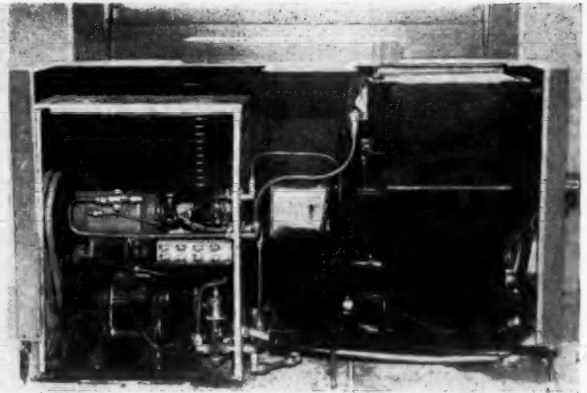
Before putting the job back into operation, it is well to examine the inside surfaces of the refrigerant lines, for if they are found to be dry, i.e. there are no traces of oil in the lines, it is evident that oil is not being circulated with the refrigerant which was the probable cause of the worn float.

Sufficient oil should be added to the system, so that in normal operation oil is actually being circulated through the refrigerant circuit, to assure a seal at all times at the float valve needle and seat.

A Peep into the G-E Room Cooler



View of the remote type G-E room cooler, showing arrangement of parts.



G-E self-contained room cooler with refrigerating machine built in same cabinet.

HAY FEVER RELIEVED BY AIR CONDITIONER

YORK, Pa.—Thirty-five years of autumn traveling in quest of a hay-feverless climate came to an end for Mrs. George S. Schmidt, wife of an attorney here, when a York air-conditioning system was installed in her bedroom recently. The system cools, cleans, dehumidifies, and circulates the air.

A York 3/4-hp. water-cooled Freon condensing unit was installed in the Schmidt basement, resting on a cork-insulated base which minimizes noise. The unit operates at slow speed. Cooling unit in the sleeping room is of the floor type.

Equipment is adjusted to maintain a 10° differential between the outside and inside temperature. Humidity is set for 55 per cent. The system is controlled by a thermostat and humidistat. The compressor's operation is manually controlled by a switch, as are the fans.

Until the air-conditioning system was installed this fall, York officials say, Mrs. Schmidt had made annual trips in search of relief from the malady.

In the last 15 years, she had visited Vienna, Budapest, Sarajevo, Florence, Rome, and Naples. And during the 20 years before that, she went each fall to Canada or to northern sections of the United States.

Humidity Controls Are Introduced

(Concluded from Page 1, Column 5)
trolled, or when using the humidity control as a pilot control of a magnetic starter, larger loads may be controlled, limited only by the load rating of the starter.

Although constructed for setting over a relative humidity range of from 20 to 80 per cent, the setting pointer is internal and not subject to tampering by persons unfamiliar with humidity requirements. The cover enclosing the control mechanism are of the locking type requiring a special key to provide access.

Grunow Plant Employs 1,000 New Workers

CHICAGO—Number of employees of General Household Utilities Co. here has been increased from 2,000 to 3,000 during the past three weeks, chiefly to work on radio production, according to William C. Grunow, president.

Three thousand sets are now being produced daily, compared with 2,000 sets per day last month, says Mr. Grunow.

The increased number of workers has been about equally distributed between the chassis assembly plant in Marion, Ind., and the cabinet and radio parts plants in Chicago.

TWO EX-SERVICE MEN START PARTS STORE

CHICAGO—Graduated from the school of several years work in field service work with several of the prominent refrigeration firms in this city, John Forbes and Joseph Corso have started their own refrigeration parts supply store on Jackson Blvd. near Racine Ave.

The company is known as the National Refrigerator Accessories Co., and does a wholesale business in parts and accessories, selling only to service men, of which there are five or six hundred in Chicago. The company also does a sizable mail order business in refrigeration parts, and to cultivate this business frequently sends out postcards telling service men of special sales in parts and used equipment, Mr. Forbes states.

Also the partners take a thousand-mile trip every few weeks, calling on service men and telling them about their parts service. In the round-robin trips they also run across used household and commercial equipment which they buy up, rehabilitate in their shop, and sell in Chicago.

The second-hand equipment business is quite attractive to the partners. They attend auction and bankruptcy sales to buy equipment, and occasionally buy up used multiple systems from local distributors who are replacing them with self-contained household units.



COLD! People who buy Electrical Refrigerators and Air Conditioning Equipment expect unfailing satisfaction 24 hours a day. To assure this service is the real job of every manufacturer and distributor. And, since it depends so much on the continuous response of the motor, it's only a matter of good business judgment to consult Century.

CENTURY ELECTRIC COMPANY
1806 Pine Street St. Louis, Mo.
Offices and Stock Points in Principal Cities



**Century
MOTORS**

PATENTS

ISSUED NOV. 7, 1933

(Continued from Last Issue)

1,934,189. INCLOSED MOTOR PUMP UNIT. John Alfred Grier, New York, N. Y., assignor, by mesne assignments to Frigidaire Corp., Dayton, Ohio, a corporation of Delaware. Application Aug. 12, 1929. Serial No. 385,179. 2 Claims. (Cl. 230-207.)

2. In an inclosed motor-pump unit, the combination with a sealed casing of a pump mounted therein and supported thereby, and discharging fluid under pressure in said casing, a motor in said casing under compressed fluid pressure drivingly connected to said compressor, a shaft for said motor, a bearing in said casing for said shaft, an inlet for said pump, a passage connecting said bearing and said inlet, a body of lubricant under compressed fluid pressure in said casing, a discharge fluid outlet from said pump into said casing, and means forming a suction lubricant passage from said body of lubricant to said bearing.

1,934,276. ICE CREAM FREEZER. Ralph E. Ramsay, Madison, Wis., assignor to French Battery Co., a corporation of Wisconsin. Application Feb. 10, 1932. Serial No. 592,133. 1 Claim. (Cl. 259-113.)

In a freezer: an open-top pan having a removable cover-member, said cover-member being equipped on its under side with a C-shaped channel communicating with an opening in the front end of said cover-member; spring-clips on the front and rear of said pan adapted to snap over said cover-member and hold the same in position; a slide-bar reciprocally mounted in said channel and provided at its front end with a handle; and a scraper, having the form of a hollow templet conforming to the cross-section of said pan, detachably connected to the slide-bar by means of a thumb screw.

1,934,283. SCRAPER FOR ICE CREAM FREEZERS. Emory Thompson, New Rochelle, N. Y. Application Aug. 18, 1932. Serial No. 629,384. 5 Claims. (Cl. 259-109.)

1. A scraper of the class described, including a metal blade having a tubular back section non-circular in cross section, and attaching lugs, each of said lugs having a rigid member which corresponds in cross-sectional shape to that of said back section and extending thereinto to secure the lug to the blade, and said lugs being arranged in spaced relation and projecting beyond the back edge of the blade.

1,934,371. MECHANICALLY REFRIGERATED WATER COOLER. Glenn Muffy, Detroit, Mich., assignor to Copeland Products, Inc., Detroit, Mich., a corporation of Michigan. Application Feb. 6, 1930. Serial No. 426,209. 11 Claims. (Cl. 62-141.)

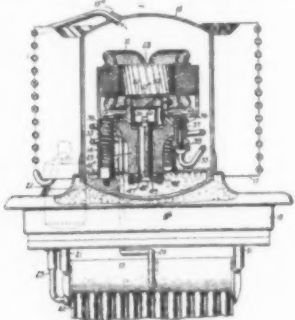
1. In a mechanically refrigerated water cooler, a metallic container open at its top and externally embraced by a cooling element, said container having a circularly arranged integral shoulder at its open end, a gasket received on said shoulder and adapted to seal the open end of said container by cooperation with either a bottle received in said end or by a cap closing said end, and a cap provided with means for its retention in engagement with said gasket in the absence of said bottle.

1,934,427. WATER COOLER FOR REFRIGERATORS. William H. Hinz, Oak Park, Ill. Application June 23, 1932. Serial No. 618,833. 7 Claims. (Cl. 62-44.)

1. A refrigerator having a cooling chamber and a large recess in a wall of the refrigerator and opening into said chamber, a liquid dispensing device extending through said wall and having at its inner end an inlet, and a container for a liquid detachably secured in said recess and having an outlet element seated in the said inlet.

1,934,482. COMPRESSOR. Harley H. Bixler, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application March 17, 1933. Serial No. 661,312. 13 Claims. (Cl. 230-206.)

1. A compressor having a body provided with a chamber, means including a pumping element in the chamber in said body for compressing a fluid, means including



1,934,482

How to save money on Motor, Transmission, Crank, Eccentric and Compressor Shafts: Send us your blue prints, we will send you our price. Write today. MODERN MACHINE WORKS 134 N. Milwaukee St., Milwaukee, Wis.

PATENTS
Searches, Reports, Opinions by a Specialist in REFRIGERATION
H. R. VAN DEVENTER
Solicitor of Patents - Refrigeration Engineer
342 MADISON AVE. NEW YORK

a passage communicating with the chamber in said body for unloading said compressor, and means for supplying a liquid under pressure to said passage for loading said compressor.

1,934,548. PRESSURE RESPONSIVE DEVICE. Herbert C. Kellogg, Detroit, Mich., assignor to Glen P. Cowan, Detroit, Mich.; Grace A. Cowan, executrix of said Glen P. Cowan, deceased. Application Dec. 24, 1928. Serial No. 328,268. 11 Claims. (Cl. 50-14.)

1. A valve comprising a valve body having inlet and outlet openings and a valve port therebetween, a valve head cooperating with said valve port to control fluid flow therethrough, a guide member integrally formed with said valve head and having a passageway extending from the lower face of the valve head to the top of the valve guide, a U-shaped spring carried by said valve guide, rollers rotatably carried in the ends of said spring, a conical cam adapted to be engaged by said rollers and a pressure responsive mounting for said cam whereby upon a predetermined movement of said cam said spring causes said valve head to move to a fully opened or fully closed position.

1,934,551. AIR COOLING APPARATUS. Frederick W. Meyenburg, Oak Park, Ill. Application Nov. 4, 1932. Serial No. 641,266. 4 Claims. (Cl. 62-91.5.)

1. An air cooling apparatus of the class described comprising a main air duct open at opposite ends, provided at one end with a screened intake opening, a motor driven suction fan in said duct cooperate with said opening, a cooling radiator at the opposite end of the duct, said radiator embodying a plurality of perpendicular tubes, that part of the casing below said duct providing an air and gas discharge duct, a second motor driven fan in said discharge duct, said radiator tubes being in communication with said discharge duct, a valved ice chest supported above said main air cooling duct, the upper ends of the radiator tubes being in communication with said ice chest.

1,934,603. REFRIGERATOR. Andrew A. Kucher, Dayton, Ohio, assignor to Westinghouse Electric & Mfg. Co., a corporation of Pennsylvania. Application Nov. 19, 1925. Serial No. 70,135. Renewed June 10, 1933. 19 Claims. (Cl. 62-116.)

9. In a condenser for a compression refrigerating apparatus, the combination of a casing, a lubricant containing receptacle provided in the casing, a shaft secured in the receptacle, a motor rotatable upon the shaft, a blower connected to the motor, and means actuated by the motor for circulating lubricant between the shaft and the motor.

14. In mechanical refrigerating apparatus, a cooling unit comprising a vaporizer containing volatile liquid refrigerant, a freezing chamber arranged interiorly of said vaporizer and accessible from the exterior of said vaporizer, heat absorbing means entirely enclosed intermediate said chamber and the refrigerant in said vaporizer, and a removable container in said freezing chamber.

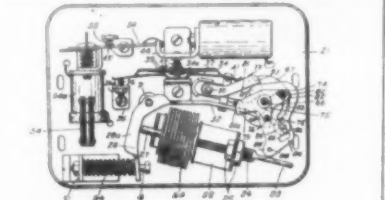
19. In refrigerating apparatus, the combination of a refrigerator cabinet and a machinery cabinet, said machinery cabinet having an air inlet and an air outlet spaced from the inlet, an evaporator disposed in the refrigerator cabinet, a duct disposed within the machinery cabinet and formed separately therefrom for directing air from the inlet toward the outlet, a fan for circulating air from the inlet and through the duct to the outlet, and a condenser and a motor-driven compressor both disposed in the machinery cabinet directly in the path of the circulating air.

1,934,604. REFRIGERATOR. Andrew A. Kucher, Dayton, Ohio, assignor to Westinghouse Electric & Mfg. Co., a corporation of Pennsylvania. Application Aug. 13, 1923. Serial No. 657,121. Renewed June 10, 1933. 20 Claims. (Cl. 62-115.)

18. A refrigerating unit comprising a sealed condensing tank for the refrigerant, a compressor located in said tank, a motor in said tank connected to and operating said compressor, and a cooling coil in said tank surrounding the compressor and motor.

1,934,605. REFRIGERATING APPARATUS. Frederic L. Tarleton, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., a corporation of Pennsylvania. Application Oct. 6, 1931. Serial No. 567,193. 13 Claims. (Cl. 200-83.)

1. In temperature control apparatus, a member having a range of movement, means for biasing the member for movement in one direction, temperature responsive means for moving the member in the other direction against the force of the biasing means, said biasing means and temperature responsive means providing an operating temperature range, means for adjusting the limits of the temperature range, a switch, an operating member for opening and closing the switch and having a range of movement at one point of which the switch is closed and at another point of which the switch is opened to provide a substantially established temperature differential, and means cooperating with the first and second members to provide for variation of timing of said temperature differential within the temperature range with respect to the range of movement of the first member.



1,934,605

ment in one direction, temperature responsive means for moving the member in the other direction against the force of the biasing means, said biasing means and temperature responsive means providing an operating temperature range, means for adjusting the limits of the temperature range, a switch, an operating member for opening and closing the switch and having a range of movement at one point of which the switch is closed and at another point of which the switch is opened to provide a substantially established temperature differential, and means cooperating with the first and second members to provide for variation of timing of said temperature differential within the temperature range with respect to the range of movement of the first member.

1,934,606. CONTROL APPARATUS. Frederic L. Tarleton, Greenville, Mich., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Original application Oct. 6, 1931. Serial No. 567,193. Divided and this application May 10, 1933. Serial No. 670,337. 27 Claims. (Cl. 62-4.)

1. In refrigerating apparatus, a cooling

unit, means for circulating a refrigerant through the cooling unit, a device for controlling the operation of the circulating means including a switch, means associated with the switch for providing an established average temperature at which the cooling unit operates including a movable temperature responsive means for operating the switch means for temporarily requiring an abnormal movement of the temperature responsive means in a switch closing direction to operate the switch to provide for defrosting of the cooling unit, and means for automatically restoring the temperature responsive means to normal operation after defrosting is effected, whereby normal movement only of the temperature responsive means is required to operate the switch.

1,934,607. REFRIGERATOR CONTROL. John J. Bauman, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application June 17, 1932. Serial No. 617,909. 12 Claims. (Cl. 200-140.)

1. The combination with a switch, of a tiltable member having sufficient amplitude of motion to open and close the switch, a lever operatively connected to the tiltable member for tilting the latter, a spring for moving the lever in one direction, means responsive to a change in pressure or temperature for moving the lever in the other direction against the force of the spring, means for adjusting the compression of the spring to advance or retard said amplitude of opening and closing motion relative to the lever, and means providing for varying the ratio of angular movement of the lever with respect to angular movement of the tiltable member.

1,934,608. REFRIGERATOR CONTROL. John J. Bauman, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Original application June 17, 1932. Serial No. 617,909. Divided and this application June 8, 1933. Serial No. 674,917. 7 Claims. (Cl. 62-4.)

1. In a refrigerating system, the combination of a cabinet, an evaporator for absorbing heat from the cabinet, an intermittently operated refrigerating machine for circulating refrigerant through the evaporator and a mechanism adjustable to a series of positions for effecting continuous cycling of the machine at progressively increasing mean evaporator temperatures, the maximum mean temperature obtained by continuous cycling being effective to remove frost from the evaporator which has accumulated thereon at the lower mean evaporator temperatures.

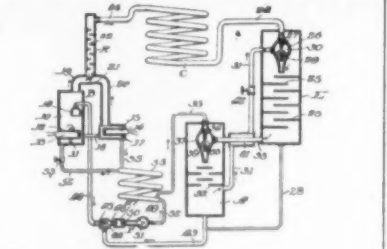
1,934,609. REFRIGERATOR CONTROL. Andrew B. Reavis, Swarthmore, Pa., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 6, 1932. Serial No. 621,124. Renewed Sept. 26, 1933. 15 Claims. (Cl. 200-83.)

1. In a control mechanism, an electric switch; a tiltable element for opening and closing the switch; a movable control element; and epicyclic means for transmitting motion from the control element to the tiltable element including a first sector member, a carrier member, means for holding one of said members in a predetermined position and the other of said members being operated by the control element, and a second sector member carried by the carrier member and operatively connected to the first sector member and to the tiltable element.

ISSUED NOV. 14, 1933

1,934,690. ABSORPTION REFRIGERATION. Earl Babcock, Chicago, Ill., assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Feb. 2, 1931. Serial No. 512,771. 7 Claims. (Cl. 62-119.5.)

1. The combination with the evaporator of a refrigerating apparatus of conduits for conveying a liquid and a gas to the



1,934,690

evaporator and means associated with said conduits for intimately mixing the liquid with the gas as they enter said evaporator, said means including a nozzle connected to the liquid conveying conduit, a Venturi passage aligned with the nozzle and a chamber between the nozzle and Venturi passage connected to the gas conveying conduit.

1,934,832. PRESSURE REDUCING VALVE. Paul C. Temple, Decatur, Ill., assignor to A. W. Cash Co., Decatur, Ill., a corporation of Delaware. Application Sept. 2, 1931. Serial No. 560,704. 4 Claims. (Cl. 50-28.)

1. In a device of the class described, a casing providing a high pressure side and a reduced pressure side, a valve device for controlling the passage of fluid from the high pressure side to the reduced pressure side and including a valve seat and a valve member cooperating therewith, and means providing a spiral flow-resisting path of constant length for the fluid after it has passed said seat to prevent wire drawing.

1,934,864. ART OF REFRIGERATION. Albert L. Lambert and Francis M. Lambert, Narberth, Pa., assignors to Heintz Mfg. Co., a corporation of Pennsylvania. Application March 19, 1932. Serial No. 599,926. 3 Claims. (Cl. 62-91.5.)

1. In a refrigerator having a display window in the refrigerating chamber thereof, the combination of a window frame, a plurality of panes of transparent material arranged in spaced relation in said frame to provide an intervening space between adjacent panes, each of said panes being provided with openings therethrough adjacent alternate edges of

adjacent panes, the opening in the innermost pane communicating with the refrigerating chamber, thereby permitting circulation of air or other gas from said refrigerating chamber through the successive spaces between said panes to the outer air.

1,934,884. REFRIGERATING APPARATUS. Donald H. Reeves, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a corporation of Delaware. Application May 30, 1929. Serial No. 367,159. Renewed March 22, 1933. 11 Claims. (Cl. 62-95.)

1. In combination a brine tank, a freezing compartment in said brine tank and a substantially flat inverted U shaped expansion coil adapted to be vertically inserted in said brine tank with the coil portions of at least one leg of the U extending substantially vertically along and in direct contact with a wall of said freezing compartment.

1,934,943. MANUFACTURE OF ANTIMONY TRIFLUORIDE-DICHLORIDE. Robert Reed McNary, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a corporation of Ohio. No Drawing. Application Feb. 9, 1931. Serial No. 514,708. 2 Claims. (Cl. 23-98.)

1. A composition of matter having the formula SbF₂Cl₂.

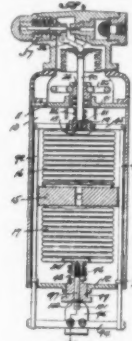
2. The process which comprises interacting chlorine with antimony trifluoride to form a SbF₂Cl₂.

1,935,023. BEVERAGE COOLER. Thomas J. Fegley, Jenkintown, Pa., assignor to North Bro's Mfg. Co., Philadelphia, Pa., a corporation of Pennsylvania. Application June 23, 1933. Serial No. 677,312. 7 Claims. (Cl. 62-34.)

1. In a cooler for bottled beverages, the combination with a receptacle for said bottles, of an ice crusher, and means for detachably mounting the crusher on the receptacle in position to discharge crushed ice into the interior of the latter.

1,935,038. DEFROSTING SEMIAUTOMATICALLY INDIVIDUAL REFRIGERATORS AND REFRIGERATORS IN MULTIPLE INSTALLATIONS. Thomas K. Marbury, Memphis, Tenn. Application July 6, 1931. Serial No. 548,862. 28 Claims. (Cl. 62-2.)

6. In a refrigeration unit having means for controlling refrigeration, heat responsive means acting on said control means



1,935,038

to initiate and control refrigeration, manually controlled means for rendering said heat responsive means inactive, and heat responsive bellows means for automatically releasing said manually controlled means.

1,935,270. COOLING APPARATUS. Benjamin F. Kubaugh, Louisville, Ky., assignor to Henry Vogt Machine Co., Louisville, Ky., a corporation of Kentucky. Application Jan. 4, 1933. Serial No. 650,168. 5 Claims. (Cl. 62-141.)

1. Liquid cooling apparatus comprising a heat exchanger having a plurality of substantially vertical tubular passages therethrough, means for feeding liquid to flow by gravity along the surfaces of said passages, means for introducing into and maintaining in said exchanger a substantially constant amount of liquid refrigerant to cool said passages, means for withdrawing the refrigerant in gaseous form from the exchanger, and means for causing air entrained by said liquid to separate from the cooled liquid and return to said feeding means for recirculation through said tubular passageway.

1,935,281. HEAT-EXCHANGE MECHANISM. Frank Maynard Reed, Clearfield, Pa. Application June 3, 1931. Serial No. 541,871. 1 Claim. (Cl. 62-115.)

In apparatus for the purpose set forth, a liquid-containing tank, a coil in said tank, a second tank, a supply pipe having an upstanding terminal portion communicating with the second tank near the upper end of the latter, a cut-off valve in said terminal portion at the lower end thereof responsive to temperature changes in the lower portion of said tank, a draw-off pipe extending from the lower end of said tank, a branch pipe connecting the supply pipe with the draw-off pipe, regulating valves in the supply pipe and said branch pipe below the junction of said pipes, a cut-off valve in said branch pipe responsive to temperature changes in the upper portion of the tank, a branch pipe leading from the terminal portion of the supply pipe and connected to the draw-off pipe, regulating valves in said branch pipe and the draw-off pipe below the junction of said pipes, a coil in the second tank, a pipe connecting the two coils, an expansion valve in said pipe, by-pass pipes connected with said pipe on opposite sides of the expansion valve, a compressor, pipes connecting the coils with opposite sides of the compressor, and by-pass pipes connected with the last-mentioned pipes at opposite sides of the compressor whereby the fluid may be caused to flow in one or the opposite direction.

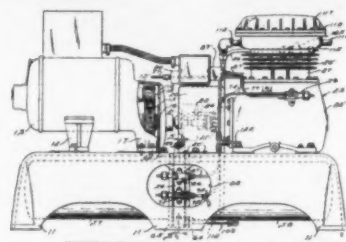
1,935,332. HEAT TRANSFER DEVICE. Bert L. Quarnstrom, Detroit, Mich., assignor to Bundy Tubing Co., Detroit, Mich., a corporation of Michigan. Application Sept. 13, 1932. Serial No. 632,971. 23 Claims. (Cl. 257-139.)

3. A heat transfer device comprising, a plurality of metal plates, each plate having formed therein a number of trough-like depressions defined by side walls, end walls, and a bottom wall, said plates be-

ing disposed in a vertical super-imposed relation with troughs of adjacent plates interfitting the bottoms of interfitting troughs being spaced from each other and defining, together with the side and end walls, fluid chambers, the bottom of each trough having an aperture therein near one end, and juxtapositioned troughs having their apertured ends respectively disposed near opposite ends of the said chambers, header means over the top and bottom plates for conducting fluid to and from the several troughs in these plates, whereby the fluid may pass through the transfer device in a general vertical direction and in a plurality of streams running through the apertures and chambers, said chambers providing a horizontal flow for the streams, the bottoms of the troughs being inclined downwardly from their closed ends to their open ends whereby to provide a gravity flow through the heat transfer device.

1,935,333. REFRIGERATING MECHANISM. John R. Replogle, Detroit, Mich., assignor to Copeland Products, Inc., a corporation of Michigan. Application Dec. 26, 1931. Serial No. 583,230. 10 Claims. (Cl. 62-115.)

5. In a refrigerating system, a condenser, a compressor, means for conducting refrigerant from the condenser to an



1,935,333

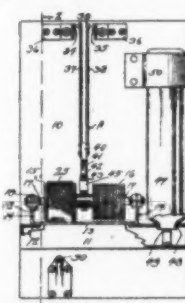
evaporator, and optional means for evacuating the refrigerant in the condenser to the low pressure side of the compressor.

1,935,345. AIR CONDITIONER. Harry D. Betz, Kansas City, Mo. Application Sept. 18, 1931. Serial No. 563,498. 8 Claims. (Cl. 62-133.)

1. A self-contained air conditioner comprising a reservoir having an air inlet opening in its top and adapted to contain a liquid cooling agent and ice for cooling said liquid, an upwardly extending housing carried by said reservoir, means located within said housing for spraying the cooling agent downwardly within the housing, means in the housing for collecting the spray to prevent it from dripping onto the ice in the reservoir, and means for drawing air upward through said spray and discharging it from said housing.

1,935,398. MOISTURE RESPONSIVE INSTRUMENT. Hobart Beecher Howry, Sioux City, Iowa, assignor, by direct and mesne assignments, to National Air Conditioning Co., Sioux City, Iowa, a corporation of Iowa. Application May 14, 1930. Serial No. 449,523. Renewed March 13, 1932. 5 Claims. (Cl. 200-62.)

1. In a hygrometer, a base including a vertically positioned panel, a water pan projecting laterally from one side thereof.



1,935,398

a cover plate secured to said pan from the ends of said plate, being bent upwardly to form ears, wet and dry bulbs supported between said ears and a switch arm operatively connected with said wet and dry bulbs and fulcrumed upon said panel.

1,935,405. ICE TRAY. Frank J. Leyner, Lafayette, Colo. Application Aug. 27, 1932. Serial No. 630,640. 2 Claims. (Cl. 62-108.5.)

1. A tray for use in freezing water to form ice cubes of predetermined size and shape comprising, a flexible metal plate forming a bottom and a mold having a plurality of openings whose walls are formed from rubber, one side of the mold being united with the metal bottom by a water tight joint.

1,935,424. WATER COOLER. John Carl Wichmann, Beverly Hills, Calif. Application Jan. 28, 1932. Serial No. 589,416. 23 Claims. (Cl. 62-91.)

1. A water cooler comprising, in combination, a stand, a water receptacle mounted thereon, an absorbent porous cover on the receptacle, means to moisten such cover by water from the receptacle, a case mounted on the stand and spaced from the cover and receptacle, such space providing a passage for the circulation of air, and a fan or blower to force air positively through said passage in a direction counter to the natural air circulation, the means to moisten the cover comprising a wick extending into the receptacle and through an opening in such receptacle to the cover.

1,935,538. REFRIGERATING MACHINE. Adolf Baumann, Wetztingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company. Application May 20, 1932. Serial No. 612,598. and in Germany Aug. 11, 1930. 14 Claims. (Cl. 62-115.)

1. In a refrigerating machine of the completely enclosed type, a casing having walls defining an evaporator space and a condenser space, an evaporator and a condenser respectively in said spaces, and a motor-compressor unit within said casing; said motor and a portion of said compres-

(Continued on Page 11, Column 4)

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There are no "yearly models" in PEERLESS FIN COILS. As experience dictates the PEERLESS FIN COIL is being constantly improved.

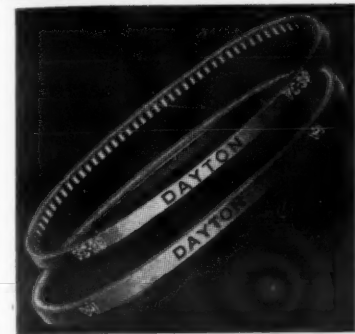
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The first fin coil to eliminate the soldered return bend with its trail of corroded and leaking joints, the PEERLESS now eliminates the soldered reducing nipple on the inlet and outlet connections of the coil. The $\frac{3}{8}$ " tubing of the fin coil is itself reduced to $\frac{1}{2}$ ".

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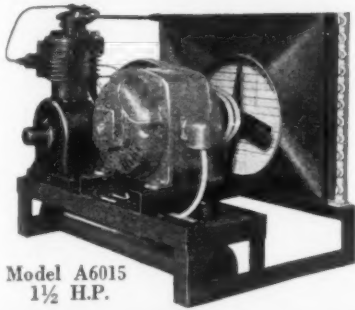
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For all makes and types of refrigerators. There is a stock near you. Ask for price list and name of your nearest distributor.

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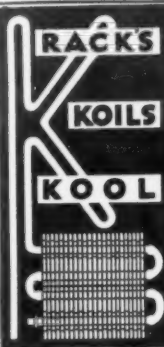


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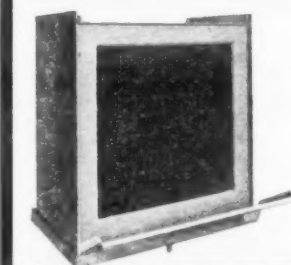


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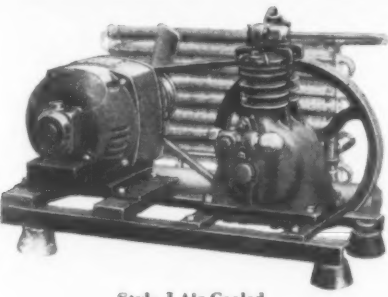


All copper construction, or copper fin steel tube for ammonia systems. Made in five sizes, ranging from 20 to 80 lbs. hourly I.M.E. Housing of sheet brass construction.

Also COMMERCIAL EVAPORATORS for all Refrigerators, DOMESTIC EVAPORATORS, CONDENSERS, SHELF COILS with fins or bare.

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STARR FREEZE CONDENSING UNITS

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QUESTIONS

Railroad Air-Conditioning Systems

No. 1440 (Engineer, Illinois)—"I have been advised that you can supply information on the various types of air-conditioning machinery used in railway passenger cars. I have an opportunity of entering this work in the near future, and will appreciate what information you can furnish on the installation and operation of such systems."

Answer—Listed below are the principal manufacturers of railroad air-conditioning systems, followed by the date in which each was described in ELECTRIC REFRIGERATION NEWS.

Make	Date of Issue
Carrier Engineering Corp.	May 4, 1932
Pullman Car & Mfg. Co.	April 20, 1932
York Ice Machinery Corp.	March 23, 1932
Westinghouse Elec. & Mfg. Co.	July 13, 1932
Frigidaire Corp.	Dec. 14, 1932

Refrigerating Engineering

No. 1441 (Manufacturer, Massachusetts)—"We would greatly appreciate it if you would furnish us with the name of the publisher of Refrigerating Engineering."

Answer—American Society of Refrigerating Engineers, 37 W. 39th St., New York, N. Y.

Thermometers for Sales Promotion

No. 1442 (Distributor, Massachusetts)—"Some three or four years ago we were supplied with a refrigerator thermometer as a piece of sales promotion material by the General Electric Co. They no longer handle this, and we are wondering if you could tell us who manufactures these devices."

Answer—Carroll Glass Instrument Co., 70th & Lansdowne Aves., Philadelphia, Pa., and Taylor Instrument Co.'s, 95 Ames St., Rochester, N. Y.

Canadian Plants

No. 1443 (Financial Consultants, Illinois)—"Can you tell us which of the large producers of electric refrigerators in this country also have factories for manufacturing or assembling refrigerators in Canada?"

Answer—Why are prices of refrigerators in Canada so much higher than in the United States? Is it the tariff situation, taxes, or what?

Answer—What were approximate sales of American-made refrigerators in Canada during 1932?

Answer—The following Canadian firms build electric refrigerators as subsidiaries of manufacturers in the United States:

Frigidaire Sales Corp.
35 Frazer St., Toronto, Ont., Canada.
Mayflower Corp. of Canada, Ltd.
Hamilton, Ont., Canada.
Kelvinator of Canada, Ltd.
London, Ont., Canada.
Norge Corp. of Canada.
245 Carlaw Ave., Toronto, Ont., Canada.
Universal Cooler Corp.
Brantford, Ont., Canada.

Canadian prices on refrigerators made in this country are considerably higher due to the fact that the Canadian government exacts a duty on all complete refrigerators imported into Canada. In fact, that is the principal reason why the above assembly plants have been established.

Exports to Canada of household electric refrigerators made in this country were 5,964 in 1932, according to figures released by the U. S. Dept. of Commerce. This is an export rather than a sales figure, of course, but it gives a good idea of the extent to which refrigerators made in this country are sold in Canada.

Disc Valves

No. 1444 (Manufacturer, Pennsylvania)—"Do you know of any concerns that make disc valves as a standard product? We require a disc .03 in. thick, and 1 in. in diameter to be used in the head of the piston as a suction valve. We have been using a small poppet valve, but it has been quite expensive to make."

Answer—Detroit Stamping Co., 3445 W. Fort St., Detroit, Mich.

Tuthill Pump Co.

No. 1445 (Manufacturer, New York)—"Will you kindly furnish us with the address of the Tuthill Pump Co. which was mentioned in one of your recent issues?"

Answer—131 W. 63rd St., Chicago, Ill.

Refrigerant Chart

No. 1446 (Manufacturer, Australia)—"Where can we obtain the refrigerant chart described on page 16 of the Sept. 13 issue of ELECTRIC REFRIGERATION NEWS?"

Answer—Address A. A. McCormack, 2305 Emerson Ave., Dayton, Ohio.

CRAWFORD TO DISTRIBUTE MAJESTIC PRODUCTS

SHREVEPORT, La.—Crawford Co. here has been appointed distributor of Majestic products in northern Louisiana, according to E. J. Crawford, head of the organization.

GRUNOW EXECUTIVES VISIT DISTRIBUTORS

CHICAGO—Sixteen executives and divisional managers of General Household Utilities Co. are making extended trips through major cities in the United States, presenting the Grunow radio franchise to distributors and dealers in those communities.

Following are names of the men and cities they will visit:

J. J. Davin, sales promotion manager: Seattle; Portland, Ore.; San Francisco; Los Angeles; and Denver.
George W. Gaidzik: Grand Rapids, Mich.; Rochester, N. Y.; Newburgh, N. Y.; Altoona, Pa.; Scranton, Pa.; Trenton, N. J.; Winston-Salem, N. C.; Monroe, N. C.; Charleston, S. C.; Americus, Ga.; and Chattanooga, Tenn.
H. H. Kunkler: Louisville; Memphis; Birmingham, Ala.; Houston, Tex.; San Antonio, Tex.; Dallas, Tex.; and Oklahoma City.

J. H. Rasmussen: Des Moines; Omaha; Lincoln, Neb.; St. Paul; Duluth, Minn.; Chicago; Indianapolis; Columbus, Ohio; and Wheeling, W. Va.
Duane Wanamaker, advertising manager: Charleston, W. Va.; Bluefield, W. Va.; Richmond, Va.; Norfolk, Va.; and Atlanta.

H. C. Bonfig, vice president and sales manager: New York City; Boston; Philadelphia; Washington, D. C.; Binghamton, N. Y.; Cleveland; Detroit; St. Louis; and Kansas City.

These district managers will contact radio men in other sections: G. H. Kiley, Wm. Humphrey, Jack Newmark, Otto Bowman, George Deacon, H. T. Stockholm, F. M. Bewsher, W. E. Darden, G. S. Coit, and J. T. Dalton.

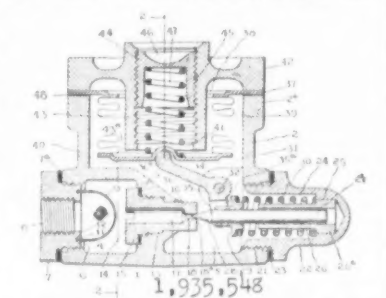
The district managers will visit the following cities: Pittsburgh; Jacksonville, Fla.; Pottsville, Pa.; Wilkes-Barre, Pa.; Cedar Rapids, Iowa; Billings, Mont.; Spokane; Peoria, Ill.; Cincinnati; Dayton; Newark; South Bend, Ind.; Wilmington, Del.; Springfield, Mo.; Milwaukee; Harrisburg, Pa.; Albany, N. Y.; Syracuse, N. Y.; Baltimore; Hartford, Conn.; Toledo; Middletown, N. Y.; Wichita, Kan.; Newport, Vt.; Little Rock, Ark.; and New Orleans.

PATENTS

(Continued from Page 10, Column 5)
sor which includes the suction side thereof being located within the evaporator space, and a portion of said compressor which includes the outlet side thereof being located in the compressor space.

1,935,548. EXPANSION VALVE. Lewis W. Eggleston, Clarence Township, Erie County, and Edward Lupfer Aurand, Buffalo, N. Y., assignors to American Radiator Co., New York, N. Y., a corporation of New Jersey. Application Feb. 10, 1927. Serial No. 167,152. 11 Claims. (Cl. 50-26.)

1. In an expansion valve, a casing having an open side, an inlet compartment in said casing, an inlet passage to said com-



partment, an outlet passage from said outlet compartment, a wall between said compartments, said wall having an opening therethrough providing a valve seat in axial alignment with said inlet passage, said outlet compartment having a socket in axial alignment with said opening, a valve guide positioned in said socket, a valve slidably mounted in said valve guide for engagement with said seat, resilient means abutting said valve guide to hold said guide in its socket and normally tending to seat said valve, a spring-pressed pivoted lever engaging said valve to oppose said resilient means and a resilient member sealing said open side and engaging said lever.

1,935,590. MECHANICAL MEANS FOR CIRCULATING AIR IN ENCLOSED SPACES. Edward A. Gorman, Alexandria, Va., dedicated to the free use of the Public. Application Feb. 20, 1933. Serial No. 657,502. 4 Claims. (Cl. 62-24.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)

1. In a refrigerator car having a storage compartment therein, a pair of bunkers disposed one at each end of the compartment, a floor in the storage compartment having an air duct in communication with the lower ends of the bunkers and with the storage chamber, said bunkers also having air inlets formed in their upper ends and air duct ports in the ceiling of said bunkers, wind driven fans situated at the ceiling of the car; unobstructed continuous ducts located between the roof and ceiling of the car and extended longitudinally along each side of the center line of said car, said ducts connecting said fans with bunker apertures located in the ceiling of the bunkers; duct outlets located above the fan blades so as to permit air drawn through the ducts from the bunkers to the fan blades to discharge vertically through the lading to the air duct in the floor and back to the bunkers.

CLASSIFIED

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MISCELLANEOUS

A LARGE Wholesale Jobber all makes repossessed refrigerators desires to make contact with distributors throughout the United States. Profits large, investment small. Lifetime opportunity to service men, hardware stores, radio stores, furniture stores and refrigerator dealers as a drawing card for increased business. Box 603.

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When in need of practical, trained shop mechanics, installation or service men, patronize this FREE Placement Bureau. We have competent, trained graduates available in every locality, to meet your requirements. With or without experience. No charge to the men or to you. Write, phone or wire.

Utilities Engineering Institute

Placement Division
Wells at Kinzie Street, Chicago

COLORADO UTILITY SALES SHOW INCREASE IN 1933

PUEBLO, Colo.—Attributed to a widening knowledge of the benefits of electric refrigeration in this area is a 76 per cent increase in the sales of electric refrigerators during the first 8 months of 1933 over the same period last year, by outlets of Southern Colorado Power Co. here.

Sales of all appliances during the month of August, 1933, were reported by the merchandising division of the utility to be 26 per cent ahead of August, 1932, sales. Florence, Colo., district showed the largest increase, 165 per cent.

To push sales of its appliances, the power company installed a model all-electric kitchen in its booth at the Colorado State Fair.

Sisters Plan to Order One Unit—Buy Three

SEATTLE — Three sisters marched into the Ben March Store here recently to buy an electric refrigerator; they departed, each owning a Frigidaire, bought from B. Pierce, salesman.

The sisters, Mrs. E. H. Lee, Mrs. George Steffanson, and Mrs. Anna L. Evans live in the same block. They had planned to use one refrigerator jointly, but when Pierce pointed out the disadvantages of that arrangement they bought three.

Sells 5 Water Coolers In Alabama Town

PHENIX CITY, Ala.—Cool, refreshing drinks appealed so much to five prospects here one hot day this summer that W. W. Hunt, district manager for Alabama Power Co., sold them five Kelvinator bottle beverage coolers.

Not content with his day's work, he went ahead and closed an order for a 4-ft. household Kelvinator before quitting time.

Straps Cabinet on Car, Sells 6 in Week

HOLLYWOOD, Calif.—Jack Klein, Frigidaire dealer under the name of Home Utilities, Ltd., here, recently strapped a refrigerator model on the back of his roadster and started out around his territory.

He draped it with signs and made demonstrations in homes throughout his section. Result: sale of a half-dozen Frigidaires in one week.

FEDDERS ENGINEER IS ALSO INSTRUCTOR

BUFFALO—J. Askin, chief engineer of Fedders Mfg. Co. here, is serving as instructor of a class in electric refrigeration at this city's Seneca Vocational High School. There are 130 students enrolled in the course.

ACTRESS HELEN HAYES BUYS A FRIGIDAIRE

NEW YORK CITY—Helen Hayes, cinema actress and wife of Playwright Charles McArthur, recently purchased a Frigidaire for her Nyack (N. Y.) home. C. J. Knapp of the Rockland Light & Power Co. made the sale.